

small air forces observer

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July 1992

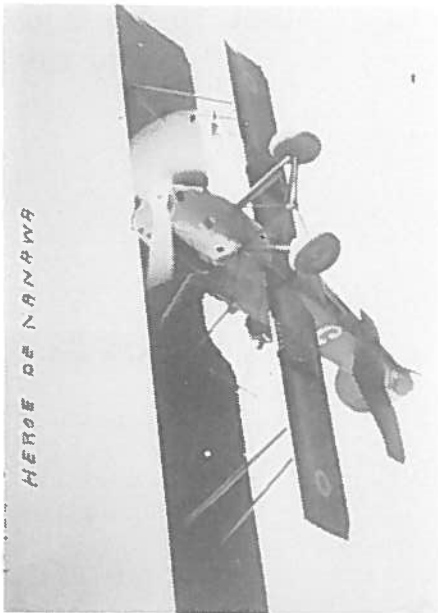
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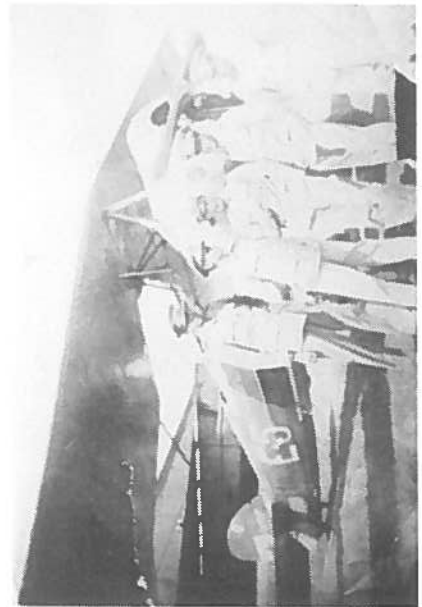
**AIRCRAFT OF THE CHACO WAR: PART I PARAGUAY
ORIGINS OF MEXICAN AF SERIALS & PREFIXES
RETURN OF THE HUNGARIAN CHEVRON
BRAZILIAN NAVAL AIRCRAFT 1916-1941
ALPHA JET UPDATE
PAPAL Mil M-8**

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July 1992



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SMALL AIR FORCES OBSERVER

The Newsletter of the Small Air Forces Clearing House

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SAFO EDITORIAL POLICY: The purpose of the SAFCH is to "promote interest in the history and modeling of the aircraft of the smaller countries". In support of this goal, the SAFCH encourages international cooperation in researching aviation history, both military and civil, from all periods of time, and for all the smaller countries. In return for this support, members are asked to submit occasional progress reports for publication in the SAFO. While the final results should appear in the most prestigious publication possible, it is requested that the SAFCH be mentioned (with address) in the article and that SAFO be afforded the opportunity of reprinting the material. Article published in SAFO can be reprinted provided permission of the author is obtained and the SAFO is identified in the reprint.

SUBSCRIPTION RATE: Subscription to the current volume of the SAFO is US \$9.00 for 4 issues per year in the USA and \$10.00 elsewhere via surface mail. For the cost of air mail delivery, contact the editorial office, or send \$20.00 and the small excess will be credited to your account. Payment should be made in cash, by International Money Order, or by a check drawn on a bank with a subsidiary in the US. (There's a \$25 charge to cash a check from a bank without a US subsidiary.) New subscriptions begin with all issues of the volume current at the time payment is received; if you desire otherwise, please specify which issues are desired. Send remittance to Jim Sanders, 27965 Berwick Dr., Carmel, CA 93923 USA. You can also have your bank transfer money directly to my bank: Coast Federal, Los Angeles, 3220-7021-3; credit to James V. Sanders, Account #03105350.

BACK ISSUES: Either back issues or Xerox copies of out-of-print issues are available for all issues of the SAFO published. For a list of all issues and their content, send two 1st class stamps (or 2 IRCs) to the editorial office.

SPONSORSHIP PROGRAM: To keep the SAFCH truly international, our Sponsorship Program allows persons who can not obtain US currency to receive the SAFO. Any SAFCH member

interested in sponsoring a SAFO subscription for a person in Eastern Europe (or from other country where it is impossible or difficult to obtain US currency) should write to the editorial office for a list of persons seeking sponsors. If you would like to receive the SAFO but can not obtain US currency, a list of SAFCH members looking for someone to sponsor is also available from the editorial office.

INFORMATION FOR AUTHORS: Manuscripts may be submitted in any form; authors whose first language is not English may submit a rough translation of the text and the editorial office will put it into good English. Authors using a computer should send the manuscript on disc. Photo should be black and white prints although color prints can be used. If you want any photos returned, please mark "Return" on the back. All art work must be ready for printing. The layout should be such that when a page is reduced (if necessary) the drawing should fit into the 7.5 inch by 10 inch working area of the final page. Art work that does not fit this requirement will have to be cut and pasted to fit; no problem, but things might not look exactly as you want them to look. All work for the SAFO is voluntary and no payment can be made for published material.

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LOST MEMBERS: Anyone knowing the whereabouts of the following 'lost' SAFCH members please inform the editorial office (last known address included): Bruno Dauzie, 1 rue des M. de Chateaubriand, 94490 Ormesson, France; Alain La Pierre, PO Box 2102 2102A, Les Delicias, Maracay, Venezuela; Michael Parr, #124 101 Tabor Blvd., Prince George, B.C. Canada; Richard Harrison, "Halcyon", RD 3, Box 3639A, Stroudsburg, PA; Ellis Estes, 5 W. Glebe Rd., Alexandria, VA.

EDITORIAL: Elsewhere in the issue you will find a review of an excellent publication produced by the Swedish Airforce Special Interest Group of IPMS-UK. While reading this publication, I realized what a great thing it would be if IPMS-UK and the SAFCH could cooperate in setting up Special Interest Groups (SIGs) on the small air forces. (The only other SIGs of interest to SAFCH members presently existing are on the Egyptian and Israeli air forces). A subsequent exchange of correspondence with IPMS-UK revealed that the rule for setting up and continuing a SIG are, of necessity, rather restrictive: (1) SIG leaders must be members of IPMS-UK, (2) all SIG members have to be members of a national IPMS group (any national IPMS group will do), (3) there be at least 5 IPMS members to start and continue a SIG, and (4) to be

considered a SIG member you have to have corresponded with the SIG leader at least once in the last 12 months. Since I believe that more small-airforce SIGs would be valuable in promoting the SAFCH goals of international cooperation, and, since I believe that setting up independent SAFCH SIGs would be counter-productive, I think we can still cooperate with IPMS-UK and remain within their regulations.

If you're interested in seeing the establishment of a SIG on some small country not presently represented by IPMS-UK, but are not an IPMS-UK member and/or do not know five IPMS members similarly inclined, let me know and I'll put a note in SAFO asking for SAFCH members with the required qualifications, and similar interests, to contact you. (I don't know of any regulation restricting the number of SIGs to which any one IPMS member can belong, so one member could help establish several SIGs as long as he/she is interested enough to correspond with the SIG leaders once a year.) If there is enough interest, we could have a regular small-air-forces SIG column in SAFO where we could publish the results of the SIG's efforts and solicit new members for the SIGs (and IPMS). Once a SIG is established, I don't see anything preventing the SIG from establishing an "associate membership" category consisting of SAFCH members who are not also IPMS members, as long as there is at least five IPMS members in the SIG. When you are ready to start a SIG, send the required information (names and IPMS numbers) to the IPMS(UK) Liaison Officer: Rob Sullivan, 7 West Avenue, Rowlands Gill, Tyne and Wear NE39 1EB, England.

COVER COMMENTS: In the first of a two-part article, which begins on page 75, Antonio Sapienza describes the aircraft used during the Chaco War between Paraguay and Bolivia (1932-1934). Shown on the front cover is a Wibault CL-73 C.1 of the Paraguayan Army Aviation. It was photographed at Nu-Guazu Air Force Base, Paraguay, in 1932. (A. Sapienza via Col. Pasmor)

PHOTO CAPTIONS: All photos Col. (retired) Pasmor via the author.

- Savoia S-52: Nu-Guazu AFB, 1932.
- Fiat CR.20 bis: '11-7', Nu-Guazu AFB, 1933.
- Potez 25 A.2: '5', over Nanan (Chaco), 1933.
- Potez 25 TOE: '7', Nu-Guazu AFB, 1934.
- Hanriot HD.32: 'E.1', Nu-Guazu AFB, 1929.
- Morane Saulnier MS-35: 'E-4', Nu-Guazu AFB, 1932.
- Morane Saulnier MS-139: 'E-5', Nu-Guazu AFB, 1931.
- De Havilland DH-60 Gipsy Moth: 'E-17', Nu-Guazu AFB, 1932.
- Consolidated Fleet F.10: 'E-7', Isla Poi (Chaco), 1933.
- Junkers A.50 Junior: 'T-5', Isla Poi (Chaco), 1933.
- Breda BA.44: 'T-1', Isla Poi (Chaco), 1934.
- Travel Air 6000: 'T-9', Nu-Guazu AFB, 1933.
- Consolidated PT-11: 'T-11', Isla Poi (Chaco), 1933.
- Savoia Marchetti S.59 bis: 'R-1', Asuncion, 1932.
- CANT 10 ter: Sajonia NAB, 1929.
- Macchi M-18 AR: 'R-5', Sajonia NAB, 1934.

AUSTRALIA

AUSTRALIAN PLASTIC MODELLER'S ASSOCIATION (APMA, PO Box 51, Strathfield, NSW 2135; 4 issues sea mail A\$27; air mail A\$30). Summer 91 (28 pages) "Iberian Airwar: Modelling Aircraft of the Spanish Civil War: Part II" 2 pages with 4 side-view drawings [I-16 (2), Fury, & Cant Z.501]. "Douglas Airlines" 2 pages including 4 side-view drawings (USAF C-53, Soviet Li-2, Swedish DC-3A, & Pan American DC-3A). "Hungarian Colours" one page with 2 side-view drawings (Avia B-534 & FW 189). "Army UH-1H Colours" 2 pages including side-view drawing of Australian Army aircraft. "Aussie Mossies" 3 pages including 2 side-view drawings and 2-page cutaway drawings of Mk.XI. "Dornier Down Under" 2 pages including drawing of Do-27 'VH-SHC'. "Yaks" 3 pages including scale drawings of Yak-1 & -7V, and side-view drawings of Soviet -1, -7V, & -7A. "Armee de l'Air Colours" 5 pages of analysis of colors used in WWII including 4 side-view drawings [MB 152, MS 406 (2), & CR 714]. "Allied Hurricanes" 1/2 page with 2 side-view drawings (India & South Africa).

NEWS AND VIEWS (IPMS NEW SOUTH WALES, PO Box 637, Broadway, NSW 2007; 4 issues A\$25.00 surface or A\$30.00 air mail). 3-4/91 (36 pages) "Avro 504: The Postwar Variants" 3 pages with one drawing of 504K 'G-EBIZ' [Editor's note: Drawings of the variants discussed are not included with this article. Perhaps they will be in a future issue.] "Havoc by Night" 10 pages including 16 side-view drawings of USAAF and RAF P-70/Havocs. "MiG Manifesto: Part III" 4 pages including 9 side-view drawings of MiG-17PF and Shenyang JJ-5 (Indonesia, East Germany, Poland, China, Bangladesh, & Pakistan). "The Seagoing Emil - An Update" 2 pages including 4 side-view drawings. "Old Crow" one page with side-view drawings of Clarence Anderson's Airacobra and P-51B. "The Bell UH-1" 12 pages including 11 side-view drawings (Austria, Colombia, Imperial Iran, Japan, Khmer (for movie), Taiwan, Thailand, & Vietnam).

AUSTRIA

OFH NACHRICHTEN (Oesterrichische Flugzug Historiker, Pfenniggeldgasse 18/2/14, A-1160, Wien). 1/92 (32 pages) "Militarische Schwalben der 1. Republik" 5 pages including 6 photos and 1/72-scale drawings of Pintsch Schwalbe II in Austrian AF markings. "Lufttraum- und Grenzverletzungen 1955 bis heute" 7 pages including side-view drawings of Bell 47G, Yak 11, Vampire, Saab J 29F, & Saab 105 OE in Austrian markings. "Die Hayden-Flugzeuge H.II und H.V.III" 2 pages including 3 photos. "Aviatik Prototype 30.14" one page including side-view drawing.

BELGIUM

KIT (IPMS Belgium, Te Couwelaarlei 103 bus 21, B-1200 Deurne/Antwerp; 4 issues for 165 FB, add 120 FB for airmail). #84 Winter 91 (36 pages) "The Renard R-31 of the Belgian Military Aviation" 21 pages including 27 photos, 2 color side-view drawings, 6 pages of drawings, and one-page English summary. #85 Spring 92 (40 pages) "Hanriot HD.I of the Belgian Military Aviation: Part II" 7 pages including 5 b&w photos, one color photo, and 4 pages of drawings. "Les Messerschmitts Français" 2 pages including 10 photos of Me-108 in French markings.

"31 Squadron F-16 'Tiger' Falcon" 6 pages including 4 b&w photos, one color photo, 2 pages of 1/72-scale drawings, and 4 pages (fold-out) of 1/48-scale drawings of "tiger-striped" Belgian aircraft. "20 Years Hercules" 4 pages including 4 b&w photos, one color photo, and 3 pages of drawings of specially-marked Belgian C-130.

BRAZIL

EM ESCALA (IPMS Brazil, Rua Arquias Cordeiro, 316 S/502, CEP 20770, Meier, RJ. Subscription is \$7.00, but they prefer kits or accessories. Send to Antonio Pereira Linhares at the above address.) 2/91 (20 pages) Nothing of small-air-force interest.

CANADA

RANDOM THOUGHTS (IPMS Canada, Box 626, Stn. B, Ottawa, Ontario K1P 5R7; 6 issues for US \$20.00 in US \$22.00 elsewhere). 22/2 (24 pages) "Fleet PT-26 Cornell II in 1/72 Scale" 5 pages on modeling the MAI resin kit (including making your own decals). "The Stuart Family of Light Tanks" 4 pages (no drawings). "The Focke-Wulf 190F-8 in Hungarian Service" 2 pages including history and 4 side-view drawings. "Hawker Siddeley Argosy in 1/72 Scale" 4 pages on building the vacuform kit. "Sikorsky HO4S: Royal Canadian Navy" 6 pages including one photo and 6 side-view drawings.

DENMARK

NYT (IPMS Denmark, c/o Bjorn Jensen, Rosenvaeget Alle 6, 2100 Kobenhavn 0; 4 issues for 90 Dkr surface, 100 Dkr airmail). #55 (30 pages) "Naval Air Station Ringsted: Part I" 3 pages including 2 photos and one side-view drawings of Danish Avro 504N. "RDAF Heraldry: Part 5" drawings of 7 unit insignia. "Hunting Pembroke in RDAF Service: Part 1" 4 pages including 6 photos and 2 side-view drawings. "Nielsen & Winther Type A" one-page announcement (with 3-view drawing) of a new vacuform kit. #56 (30 pages) "Naval Air Station Ringsted: Part 2" 5 pages including 6 photos and 2 side-view drawings (Dankok and Nimrod). "Danish Army Hughes 500" one page including 4-view drawing of new camouflage scheme. "Pembroke in Danish Service: Part 2" 3 pages including 4 side-view drawings.

ENGLAND

IPMS MAGAZINE (Ernie Lee, 51 Ball Road, Hillsborough, Sheffield, South Yorkshire S6 4LZ, 6 issues for £18.00. US subscription agent: Wise Owl Publications, 4314 West 238th St., Torrance, CA 90505; \$22.00). 1/92 (24 pages) "Three Yaks" 3 pages including scale drawings of Yak-1, -7V, -9, & -9T, and 6 side-view drawings (North Korean -9P & Polish -9 masquerading as an RAF Hurricane 'TloC' for a Polish film. "IAI Kfir - Israel's Lion Cub" 6 pages including 4 photos, three 4-view drawings of different camouflage schemes, and drawings of 9 squadron insignia. "Two into One will Go!" 2-page article on modifying the Frog Sea Vixen FAW2 back to the FAW1. "American SPADs" 6 pages with 6 multi-view drawings. 2/92 (18 pages) "Italian T-Birds" 4 pages on modeling the T-33 including 8 side-view drawings. "More Hunter Markings" one page with one photo (current Oman) and 5 side-view drawings (Belgian, Dutch, & Jordanian). "Yanks in the RAF" 2 pages on modeling RAF Tommyhawks. "Off Beat

Kingfisher Scheme" one page including drawings of RAAF Kingfisher in experimental black & dark ocean blue camouflage.

PLASTIC KIT CONSTRUCTOR (PAMAG (Publications) Ltd., Unit 308, J.C. Albyn Complex, Burton Rd., Sheffield S3 8BZ; 4 issues £ 17.00. In USA: J.J. Daileida, 4314 West 238th St., Torrance, CA 90505; 4 issues \$18.00).

#30 (28 pages) "Finland's Hurricanes" 2 pages on modeling the Hurricane including drawing of 'HC-452' "A Hooked Airacobra" one page on modeling an RAF aircraft with arrestor hook including a side-view drawing. "Blackburn YA-7/8 & YB1" 4 pages including 3 photos and 2 pages of 1/72-scale drawings. "Iraqi Frogfoot" one-page drawing of aircraft '25 590' (in arabic numbers, of course). "Ghana AF Skyvan" 1/2 page with 2 photos. Many reviews of unusual kits.

FINLAND

MALLARI (IPMS Finland, PL 798, 00101 Helsinki 10; 6 issues \$20.00, no check accepted due to the high redemption costs). 5/91 #84-85 (28 pages) "Mil Mi-8: Part I" 8 pages including 19 photos (Chinese, Bulgarian, East German, Hungarian, Soviet, Czech, Yugoslav, German, & Finnish) and 2-side-view drawings (Finnish 'HS-6' and Bulgarian 'LZ-CAE'). 1/92 #86 (20 pages) "Mil Mi-8: Part II" 13 pages on Finnish Mi-8's including 41 photos of both aircraft and exterior and interior details. 1/92 #87 (16 pages) "Finnish Fiat G-50: Part I" 8 pages including 5 photos, 2 pages of drawings of variants, and 6 side-view drawings. 2/92 #88 (20 pages) "Finnish Fiat G-50: Part II" 14 pages including 13 photos and 11 drawings of aircraft (either side, one side and top, or 2 sides & top). InScale is advertising new decals: AC005 Fiat G.50, AC006 Brewster 239 (1940-42), AC007 Brewster 239 (1940-42) 1/48, AC008 Junkers Ju-88A = 4 (1943-44), AC009 Brewster 239 & Humu (1943-48). These are all FF25 (approximately \$6.25) except AC007 which is FF35 (approximately \$8.75). InScale, Makelankatu 5 B 10, 0550 Helsinki, Finland.

FRANCE

LA VITRINE DU MAQUETTISTE (IPMS France, PB 149, 75961 Paris, Cedex 20, PB 149, 75961 Paris Cedex 20; 4 issues 150 FF). #42 (44 pages) "Douglas AD-4W Skyraider" 3 pages on improving the 1/48-scale ESCI kit. "Photo Pages" 4 pages with 29 photos of details of a preserved French Skyraider. "Douglas Skyraider H-1 AD-6" 5 pages on modeling the 1/72-scale Airfix kit in the markings of the South Vietnamese Air Force. "Le Westland Wyvern" 4 pages on modeling the 1/72-scale Frog kit.

GERMANY

MITTEILUNGEN (IPMS Germany, Berengruenstrass 5-7, D-1000 Berlin 38; 12 issues DM 60.00 Europe, DM 65.00 USA, DM 70.00 Japan, DM 75.00 Australia). 2/92 (32 pages) "Russland und die deutschen Flugzeuge" 7 pages including 12 photos of German aircraft in Russian service (Lebedev XI & XII; Albatros B-I & B-II; LVG B-II; Rumpler B-I; Salbating SF-5; & Friedrichshafen FF-49C). 3/92 (32 pages) "Deutsche Flugzeuge in Russland: Die Zwanziger Jahre" 7 pages including 13 photos [Dornier Komet 'RR-UAA', Junkers F 13 'RR 38',

Junkers H-21, Junkers A-20 (R-2), Junkers A-30 W, Junkers K 30 (JG-1), Heinkel HD 37 (I-7), Heinkel He 55 (KR-1), Heinkel He 5, & Dornier Wal].

GREECE

NEA (IPMS-Greece, PO Box 79167, 175 05 Amfithea, Athens) 4 issues \$25.00 for first year, \$20.00 for next year.

4/91 (32 pages) "Cypriot Helicopters" 4 pages including 13 photos (Bell 206L, PZL Mi-2, & Gazelle) and side-view drawing of a Gazelle. "Colours and Markings of the Greek Army: Part II" 5 pages including 20 photos and 8 drawings of insignia. "AW Atlas" 2 pages including one photo and drawings of Greek Atlas. Photos: Greek Harvard & Helldiver. Color print: Greek Buckeye.

HUNGARY

AERO HISTORIA, Budapest Pf. 61. 1631.

August '91 (56 pages) "Magyar Oceanrepules" 7 pages including 2 photos of the Lockheed Sirius 'Justice from Hungary' that flew from USA to Hungary in 1931. "Dornier Do-23 in Hungarian Service" 6 pages including 4 photos and small scale drawing. "Photos from the Readers" 3 pages with 10 photos [Hungarian AF Heinkel HD-22, Ju-86K, & Re-2000; Hungarian civil-registered Klemm-25, FW-58, and Savoia transport. "Romanian Air Force in Hungary: April-August 1919" 15 pages including 16 photos (Romanian Farman F-40, Brandenburg C-I, Sopwith 1-1/2 Strutter, Breguet 14, & Nieuport 17; Red Hungarian Nieuport 17 & Phoenix C-I). "Savoia SM-75" one photo. [Editor's note: in the background of the SM-75 photo is what looks like a Siebel 204 in WWII Hungarian markings, but with radial engines. Is my identification incorrect? Can anyone provide information on the possible use of the Si-204 in Hungary?]

ITALY

JP-4 (JP-4, CP 1550, 50100 Firenze; L 27.000 Europe, L 30.000 elsewhere).

3/91 (98 pages) Color photos: Czech Yak-40 in UN markings, Kuwait F/A-18, & German L-39. "Il Punto sull'AMX" 5 pages including 8 color photos of AMX in Italian markings. "Dalla Terra del Fuoco al Tropico" 10 pages including 17 color photos of Chilean aircraft [Hunter, F-5E, Mirage,

Canberra, A-37B, C.101, Boeing 707, DHC Twin Otter, Bo-105, UH-1H (in UN markings), & Alouette III]. "Dove nacque la Heyl ha'Avir" 6 pages on training Israeli pilots in Italy during 1948 including 11 photos [Spitfire (Israel, Burma, & Czech), FL.3, & Proctor].

4/91 (98 pages) Color photos: Croatian MiG-21PFM '101'; Austrian Saab 350E '15' & '19'; Belgian C-130 'CH-12'; and Kuwait L-100-30 'KAF 325'. "Rooivalk: The Jewel of Atlas" 6 pages including 7 color photos of South African helicopter. "Aviation Conquers Cufra" 6 pages including 12 photos, map, and color drawings of Ro.1 (Italian-built Fokker C-V) in special markings for use in the desert of southern Libya. "Prague's New Organization" 8 pages including 9 color photos (MiG-29, MiG-21, MiG-23, Mi-24, Mi-8, & An-26), and "order of battle" 30 November 1991.

POLAND

AERO TECHNIKA LOTNICZA (Bartycka 20, 00-716 Warszawa 36. 12 issues US \$32.00.)

2/92 (44 pages) "Fieseler F-156" 16 pages including 16 b&w photos, 14 color photos (museum a/c including one Swedish), 2 color side-view drawings (one Finnish), 2-page cutaway drawing, and 2 pages of 1/72-scale drawings. "Storch w Lotnictwie Polskim" 4 pages including 8 photos, 2 tables, and 10 side-view drawings of Fi-156 in Polish civil and military markings. "TS-11 Iskra" 3 pages including 2 photos, 1/72-scale drawing, and table. "Rozwoj CWL/WCZL 1918-1927" 3 pages including 5 photos (WZ-X/1, H-28, & SPAD-61C1) and table of aircraft constructed. "PZL P.1/II" one page including 2 photos and 1/72-scale drawings of the colorful red/white 'SP-ADO'. "Rejestr Polskich" one-page table: SP-BSA to -BTZ. Photos: PWS-12 & PWS-14.

3/92 (44 pages) "F-111 Aardvark" 14 pages including 12 photos, 2-page cutaway drawing, drawings of cockpit and landing gear details, and 1/72-scale drawings of F-111E. "Lynx" one page of 6 photos of Dutch '283'. "Nowy Su-25" one page including side-view drawing of Su-25T. "Norweskie Muzeum" 2 pages including 7 color photos. "TS-11 Iskra" 2 pages including 1/72-scale top and bottom views. "Spitfire" 3 pages including 4 side-view drawings (French Mk-I, Turkish Mk-I, German Mk-I, & Soviet Mk-Vb). Photos: PWS-5 & PWS-5a.

4/92 (44 pages) "PZL-23 Karas" 24 pages including

26 photos, 2-page cutaway drawing, 4 pages of 1/48-scale drawings, one-page 1/72-scale drawing, ten 1/72 side-view drawings of variants, one 4-view drawing (Polish), 10 side-view drawings (5 Polish, one Romanian, 3 Bulgarian, & one German), color painting of Romanian P-23, 2 color side-view drawings (Polish). "TS-11 Iskra" 9 pages including 8 color photos, details of nose compartment, and 3 pages of color schemes (prototypes 2, 3, & 4; two Indian; camouflaged Polish TS-11 Iskra-200 BR; Polish '1105' & 'SP-DOF'; and 2 acrobatic a/c). Photos: PZL L-2 'SP-AFA' (2).

USA

WWI AERO (15 Crescent Rd., Poughkeepsie, NY 12601; 4 issues \$25.00 USA or \$30 overseas).

#135 (146 pages) "Time's Tarmac" 17 pages with 59 miscellaneous photos (including Danish Vickers Gunbus, Nielsen & Winther Jaeger, & OV flyingboat; Czech Salmson 2A2, Antra DS Anasal, & Spad 7; Dutch Rumpler C.VIII & Albatros B.I). "The Wright Stuff: Part IIIB" 10 pages including 20 photos and scale drawing of SC #1. "Russian Balloons in the Russo-Japanese War" 5 pages including 8 photos. "Royal Aircraft Factory RE.8" 11 pages including 41 photos. "USMC Fokker C-1/D-VII" 2-page scale drawing with marking information.

SKYWAYS (15 Crescent Rd., Poughkeepsie, NY 12601; 4 issues \$25.00 USA or \$30.00 overseas).

#22 (84 pages) "Junkers Luftverkehr" 8 pages including 7 photos of various Junkers airliners. "Origins of the Pander D Replica" 7 pages including 1 photo and scale drawing. "Those Payens" 6 pages including drawings of all known aircraft designed by Nicolas Payen; the editor comments, "For such unique, one-off aircraft, there are quite a lot of photos around, but none of the airplanes in flight! There has also been a good deal written about these planes, but no descriptions of their flying characteristics." "Record Flights and Attempts" 5 pages with 11 photos including Spanish Plus Ultra, Madrid-to-Manila Breguet, & the Atlantic-crossing Bremen). "Consolidated Fleetsters: Part II" 6 pages including 4 photos and 4 pages of detailed scale drawings. "The Cuban Waco" 4 pages with 7 photos of RC model. "The SNCAC NC 150" 3 pages with 4 photos.

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One of our Brazilian members has paid for his SAFO 1992 subscription by sending a video tape containing programs taped from Brazilian TV. Included on this three-hour tape are: "Brazil in WWII" b&w documentary taped in 1972 - mostly ground action in Italy but some nice shots of Brazilian Catalinas and a brief look at Brazilian P-47s. "Brazilian Military Industry" - all ground weapons. "50 Years of the Ministry of Aeronautics (1991) - lots of aircraft. "AMX 1st Prototype" (1985). "Esquadrilha da Fumaca (1985) - includes a ride in a Tucano. "CAN" (1981) - Brazilian air transport on the Amazon. The narration is all in Portuguese. This VHS video tape is available from the SAFCH

Sales Service at a price just sufficient to pay for the Brazilian members air mail subscription and postage. If you're into Latin American aviation and are looking for something a little bit different, you can help the SAFCH by purchasing this tape. It is also highly recommended to anyone who is studying Portuguese.

"A new company, Modelx, is producing a series of video tapes on aviation subjects such as modelling, air shows, aerobatics, and military aviation. I've only purchased one cassette so far, but it is excellent. Simply titled MiG-29, it shows 1st Air Regiment Polish Air Force Fulcrums in action. Aircraft are shown while practicing for the Poznan Air

Show, while undergoing maintenance, rearming, overhaul, takeoff and landings, night flights, etc. Altogether, 60 minutes of fast-paced action. Many situations that cannot be captured by still photography give you a feeling of participating in the activities of a military air base. Of course, there are plenty of useful details for the modeler.

"The price of US\$15 is very reasonable, but be sure your VCR includes VHS/PAL system. Other interesting titles from this company include: Le Bourget '91; Poznan International Air Show '91; Thunderbirds (F-16's in Poland); and MiG-21PFM." Wojciech Butrycz (SAFCH #981), ul. Facimiech 12A m.25, 30 667 Krakow, Poland.

"At the present time, many aircraft are being destroyed in our country. One of these is the Tu-16 - the first and most famous Soviet strategic bomber. We would like to see some examples of this aircraft preserved, but in our museums aircraft are presently badly maintained. We are authorized to offer you a Tu-16. This aircraft is in flying condition and can be flown to you. If you are interested in this offer, we will put you in touch with the representatives of our military headquarters, who will be able to settle the matters of price and delivery of the aircraft. Contact us at: Vitebsk FAX 7.02122.405.17." Alexandr Petrochenko or Vadim Kondratenkov, Shradera 10-49, Vitebsk 210015, Russia.

[Editor's note: The above letter was received by a Finnish Aviation Museum and was passed on to me by one of our Finnish member who comments: "Are they serious? I think they are. Very strange things are happening in that country nowadays! They are probably sending letters all over the world, so act quickly."]

"For a long time I have wanted contacts with foreign modelers. I am 30-years old and I am chief of the model department of the St. Petersburg Aviation Museum. I build non-flying models for museums, but my hobby for the last 16 years has been flying scale control-line models and, in the last two years, radio-control models. I am now building my first RC scale aircraft - a Zlin-37 agricultural aircraft with a 84 inch wingspan.

"I would like to contact people interested in: (1) Aircraft & helicopters; (2) model aircraft & magazines; (3) model news, accessories, & engines; (4) aviation history; (5) plastic modeling; and (6) models of naval cannons (17th-19th Centuries." Peter Batuev, PO Box 154, 198302 St. Petersburgs, Russia.

[Editor's note: Peter sent some photos of his work including a Il-4 with 56 inch wingspan, a control-line Albatros D-III with 43 inch wingspan and a 7 cc engine, and two cannons: 1/4 scale model of "Peter the Great Salute Cannon" and a 1/10 scale "3-pound Naval Cannon, Russia 1883" of which he says he has "about 10 models for exchange".]

"I just read over your note about sponsorship of overseas members who cannot get \$US. I would be glad to provide SAFO subscriptions to a few interested hobbyists in any country, if they can help the **Heraldry of the Air Museum** in getting what we need from their countries. The Museum needs both civil and military badges and patches, and aircraft color schemes in books, magazines, or whatever form. In addition to SAFO, we would also be able to send model kits and accessories, but, as we are not into such things ourselves, a want list would have to be provided. We do not even have to do 'like-for-like' trading; I will trade anything legal - it does not have to be aviation related.

"We have had such arrangements with friends in Australia, Czechoslovakia, France, Italy, Poland,

Spain, Belgium, and Turkey for many years, but can still use traders in most countries in Eastern Europe, Asia, Africa, and Latin America. We could probably handle 6-10 such correspondents." Peter Bruce Walton (SAFCH #455), 254 Hoyt St., Brooklyn, NY 11217.

[Editor's note: This sounds like a great opportunity for some of our members to pick up an enthusiastic trading partner. Or, better yet, why not get one of your friends to join the SAFCH this way. If you think you can help the Museum, please write directly to the Heraldry of the Air Museum, c/o Peter Bruce Walton at the address above.]

"I'm breaking up a large book and magazine collection. Magazines such as Air Classics, Air Power, Wings, Aeroplane Monthly, Air & Space, etc. Books such as Air Warfare, British Military Aircraft, History of Aviation, Time-Life series of Epic of Flight, etc. Send legal-size SASE for listing."

Burt Leake (SAFCH #665), 4291 Larchwood Pl., Riverside, CA 92506.

DESTINY CAN WAIT, The History of the Polish Air Force in Great Britain, 1949, 402 pp, illus, dj. \$60.00 plus \$2.00 postage. Kathy Morgan Criddle, 2729 Northridge East, Clearwater, FL 34625. [Editor's note: Send legal-size SASE for book list.]

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"Eduard is releasing new etched-brass accessory sets so fast that it is no longer possible for me to send each new release to the SAFCH for sales through the Sales Service. (To try would disrupt my family finances for years to come.) However, I have a suggestion that will allow SAFCH members to continue receiving these parts at a reasonable price: If we publish a list of sets in SAFO along with their prices, members can send the money directly to the SAFCH. You can send a list to me with names and address, and I will send the sets directly to the buyer.

"Eduard should be releasing about 10 new sets monthly(!), so the list of available sets will grow with each SAFO issue."

Vladimir Stepanek (SAFCH #829), Na Vinici 458, 274 01 Slany, Czechoslovakia.

[Editor's note: This sounds like a good idea. While it will slow up delivery, I expect that orders will come it at such a rate that I will send a list to Valdimir every three months, it does make the excellent Eduard sets available while not taxing Valdimir's finances or my storage capacity and eliminating back orders. Below is a list of Eduard set with price to SAFCH members (including postage). Please send you order and money to the SAFCH Sales Service and be prepared to wait an average of 3 months for delivery. If you need it sooner, you can order from Squadron Mail Order where, for example, 72-014 normally sells for \$16.95 but is on sale for \$9.99 (plus postage).]

72-001	Su-25K	\$6.00
72-002	German seat belts	\$6.00
72-003	Mi-28 Havoc	\$6.00
72-004	Soviet seat belts	\$3.50
72-005	Su-27UB	\$8.00
72-006	MiG-29	\$8.00
72-006	F-86 interior	\$6.00

72-008	F-86 w/c	\$8.00
72-009	F-86 slats	\$8.00
72-010	Mi-8 rotor	\$8.00
72-011	Mi-8 exterior	\$8.00
72-012	Mi-8 interior	\$8.00
72-013	A5M4 Claude	\$8.00
72-014	F-104 engine/exhaust	\$10.00
72-015	F-104 details/interior	\$8.00
72-016	AT-6 flaps & w/c	\$6.00
72-017	AT-6 interior	\$10.00
72-018	Vampire	\$6.00
72-019	Vampire T-11	\$3.50
72-020	D4Y2 Judy	\$10.00
72-021	D4Y3 Judy	\$10.00
72-022	Japanese bombs & torpedoes	\$6.00
72-023	Ki-61 Tony	\$8.00
72-024	Ki-100	\$8.00
72-025	B6N Jill	\$10.00
72-026	Soviet chocks type A	\$6.00
72-027	Piper Cub	\$3.50
72-028	Spandau gun	\$3.50
72-029	MiG-29UB	\$8.00
72-030	Soviet chocks type B	\$6.00
72-031	Soviet chocks type C	\$6.00
72-032	F4F Wildcat interior	\$8.00
72-033	F4F Wildcat engine & w/c	\$8.00
72-034	Jak-3	.
72-035	Span VII/XIII	.
72-036	P-40N	.
72-037	Albatros D-V	.
72-038	P-47D	.
72-039	P-40E	.
72-049	P-40B	.
48-001	Su-25K	\$8.00
48-002	MiG-21	\$10.00
48-003	Su-7	\$8.00
48-004	Soviet seat belts	\$6.00
48-005	Spandau gun	\$6.00
48-006	German seat belts	\$6.00
48-007	MS-406	\$7.50
48-008	F9F Panther	\$6.00
48-009	Hurricane	\$10.00
48-010	MiG-17F	\$8.00
48-011	FW-190 flaps	\$8.00
48-012	La-7	\$8.00
48-013	La-5	\$8.00
48-014	La5/7 flaps	\$8.00
48-015	P-51D	\$8.00
48-016	Soviet chocks type A	\$6.00

48-017	Typhoon	\$8.00
48-018	Pittairn Autogyro	\$8.00
48-019	Soviet chocks type B	\$6.00
48-029	Soviet chocks type C	\$6.00
48-021	L-4 Cub	\$6.00
48-022	A-10 Thunderbolt	\$10.00
48-023	Bf-109 G/K	.
48-024	P-40 flaps	.
48-025	P-40E	.
48-026	F6F Hellcat	.
48-027	A-1D Skyraider	.
48-028	USAF seat belts	.
32-001	German seat belts	\$8.00
32-002	F-104	\$8.00
32-003	Hurricane	\$8.00
32-004	FW-190D	\$8.00
32-005	FW-190 flaps	\$10.00
32-006	Soviet seat belts	\$8.00
32-007	MiG-29	\$8.00
32-008	USAF seat belts	.

* Items to be released, but prices currently unknown.

"Although response to our first book, 'US Naval Ejection Seats, Vol. 1' [Editor's note: See review elsewhere in this issue.], was favorable, we kept hearing the remark, 'How about some accurate ejection seats that I can paint and drop in?' So in response to your requests, Aviation Research announces the first in a series of 1/48-scale, cast-resin ejection seats - the Martin Baker Mark F5 used in the F-8 Crusader Vietnam MiG-killers.

"To insure accuracy, manufacturer's drawings were used to construct the master, containing over 200 parts. The seat comes with photographs of an actual Mark F-5, complete painting instructions, FS numbers, and a length of yellow and black 'sissy bar'. Our seat sells for \$7.00 (US) each, plus \$1.50 for postage and handling (foreign order please add 25%), and can be purchased from: Aviation Research, 1268 Cherrydale Cove, Memphis, TN 38111."

AIRCRAFT OF THE CHACO WAR 1932-1935

Part I: Paraguay

Antonio Luis Sapienza

[Editor's note: This is the first of a two-part article describing the aircraft used by Paraguay and Bolivia during the Chaco War which began in 1932. A boundary dispute, brought on by the discovery of oil in the Chaco, led to three years of war between Paraguay and Bolivia. The Grand Chaco is an area of lowlands, plains, and scattered forests that extends out from eastern Paraguay into southwestern Brazil, eastern Bolivia, and northern Argentina. A final settlement in 1938 gave Paraguay 91,800 square miles of Chaco land. The second part of this article, covering Bolivian aircraft, will appear in the October issue of SAFO. For a description of the aerial combat in this war, see "The Green Hell Air War", Air Enthusiast Quarterly, #2. This article contains photos (all different from those accompanying this present article) and seven very nice color side-view drawings.]

Introduction: During the Revolution of 1922, both factions hired foreign pilots and their planes. A total of 12 planes were used in that conflict: 2 Breguet 14 A.2, one Spad S.XX, 2 SAML S.1, 5 Ansaldo SVA.5, and 2 Ansaldo SVA.10. The Spad S.XX, both SAML S.1's, one SVA 5, and one SVA 10 survived the revolution and they became the first planes of the Military School which was founded in 1923.

From 1927 to 1933, a total of 53 planes were bought by Paraguay: 13 fighters, 14 bombers, 12 trainers, 3 liaison planes, 7 transports, and 4 hydroplanes. An embargo by the League of Nations prevented the acquisition of 33 planes in 1933/34 because Paraguay was declared the "aggressor" country.

FIGHTERS

Savoia S.52: (1) 1927-33; serials --. This aircraft was used as a fighter trainer at Nu-Guazu AFB until 1933 when it was lost in an accident. (Photo a, page 70.)

Wibault CL-73 C.1: (7) 1929-33; serials 1, 2, 3, 4, 5, 6, and 7. These aircraft belonged to the 1st Fighter Squadron of the "Aviacion en Campana". One was lost in an accident before the war and another two during the war due to mechanical problems with the radiator. In 1933, the surviving planes were taken to Asuncion for local defense and as a source of spare parts - the Wibault had the same engine as the Potez 25's. (Photo on cover.)

Fiat CR.20 bis: (5) 1933-1941; Serials 11-1, 11-3, 11-5, 11-7, and 11-9. They belonged to the 11th Fighter Squadron "Los Indios". They escorted the Potez 25's in their bombing and reconnaissance missions. "11-9" was lost in an accident while flying to the Chaco in 1933. "11-1", piloted by Lt Walter Gwynn, was shot down on 12 June 1933 by the Vickers Scout of Capt Luis Ernst. "11-3" was lost in an accident in 1934 in which the pilot, Capt Bernardino Caballero Alvarez, was killed. "11-5" and "11-7" survived the war and were reserialled C-1 (11-5) and C-2 (11-7). "C-2" was lost in an accident in 1939 and "C-1" was dismantled in 1941. (Photo b, page 70.)

BOMBERS

Potez 25 A.2: (6) 1928-43; Serials 1, 2, 3, 4, 5, and 6. Potez "2" was lost in an accident before the war. "6", Lt Trifon Benitez Vera and Capt Ramon Avalos Sanchez was shot down by the Vickers Scout of Bolivian "ace" Capt Rafael Pabon on 4 December 1932. The Potez 25's participated in bombing, reconnaissance and aerial photography missions throughout the war. Potez "5" was the only survivor of the war and it was kept in flying condition until 1943 when it was dismantled. (Photo c, page 70.)

Potez 25 TOE: (8) 1932-40; serials 7, 8, 9, 10, 11, 12, 13, and 14. (Potez "8" was reserialled 15 after an accident). The main difference between the models A.2 and TOE was the extra fuel tanks in the TOE were carried in the belly instead of the wings. Therefore, the TOE's were called "The Big Bellies" by Paraguayan pilots. "14" was destroyed when returning from a bombing mission; two of its bombs, still suspended in its bomb racks, fell and exploded when the plane touched the ground, in 1933. "13", Lt Arsenio Vaesken and Lt Abelardo Bertoni, was shot down by a Bolivian plane in Camacho. Potez "11", piloted by Capt Carmelo Peralta with Lt Rogelio Etcheverry as the gunner, shot down a Curtiss Osprey piloted by Bolivian "ace" Maj Rafael Pabon on 12 August 1934. Three TOE's survived the war: 7, 9, and 11 participated in the Victory Parade with Potez 25 A.2 "5". TOE "7" piloted by Maj Carmelo Peralta with Gen Jose F. Estigarribia (The President of Paraguay) and his wife as passengers was lost in an accident on 7 September 1940 near Asuncion. All three died instantly. (Photo d, page 70.)

TRAINERS

Hanriot HD.32: (3) 1927-1932; E.1, E.2. and E.3. The HD.32's were the planes used by the students of the Military Aviation School. They were replaced by the Moths and Fleets in 1932. (Photo e, page 70.)

Morane-Saulnier MS-35 EP.2: (1) 1927-36; serial E.4. This plane was the "second step" for students at the Military Aviation School. They would take their "final exam" on the MS-35 or the MS-139. It continued to train military pilots during the Chaco War and after, until it was transferred to the Paraguay Aeroclub. (Photo f, page 70.)

Morane-Saulnier MS-139 EP.2: (1) 1927-1938; serial E.5. It also survived the war and was transferred to the Paraguay Aeroclub where it flew until 1938. (Photo g, page 70.)

Consolidated Fleet 10: (5) 1931-1966; serials E.7, E.9, E.11, E.13, and E.15. (E.7 was later registered ZP-TAF and finally ZP-EAL.) They replaced the Hanriots as basic trainers. Fleet "E.11" was lost in an accident in 1935. They were also used as liaison planes during the war and three survived the war to be transferred to the first Paraguayan airline, LATN (Lineas Aereas de Transporte Nacional), in 1945. The last Fleet (E.7) was later sold to a Glider Club where it flew until 1966. (Photo h, page 70.)

De Havilland DH-60G Gipsy Moth: (2) 1932-38; serials E.17 and E.19. The Moths were used mostly as trainers, but also served as liaison and VIP transport planes. One was lost in an accident in 1933. The other survived the war and was later transferred to the Paraguayan Aeroclub. (Photo i, page 102.)

LIAISON PLANES

Breda Ba.15: (1) 1929-33; serial --. This was mostly used as a liaison plane and VIP transport. It was lost in an accident in the Chaco in 1933.

Junkers A.50 Junior: (2) 1932-35; serials T-3 and T-5. "T-3" was lost in an accident at Nu-Guazu AFB in 1933. "T-5" was used as liaison plane on all the war fronts during the Chaco conflict. (Photo j, page 102.)

TRANSPORT PLANES

Curtiss-Wright O-1E Falcon: (1) 1932-36; serial 17. Although built as a combat plane, this aircraft was used as VIP transport. It transported the President, Mr. Eusebio Ayala, in his trips to the battlefronts. It was also used by the Commander-in-Chief of the Paraguayan Army, Gen Jose F. Estigarribia, to visit the Army Corps in the battlefront.

Breda Ba.44: (1) 1933-47; serial T-1. It mainly transported top rank officers, goods, and ammunition, but it was also used as an ambulance plane. It survived the war and was transferred to LATN in 1945 where it flew until 1947. (Photo k, page 102.)

Travel Air 6000: (2) 1933-47; serial T-2 and T-9. They belonged to the 1st Squadron of Transport together with the Breda Ba.44 and the Curtiss Robin. After the war, they remained with the Paraguayan Air Arm and until, in 1945, they were transferred to LATN. (Photo l, page 102.)

Curtiss-Wright 4C-1A Robin: (1) 1933-38; serial T-7. VIP transport and ambulance during the war.

Waco Model F: (1) 1933; serial -. This was used as a Presidential transport until it was destroyed in an accident in 1933. After this accident, the President used the Falcon or the PT-11, although he also used a Potez several times.

Consolidated PT-11: (1) 1933-43; serial T-11. It was used as a transport for top-rank officers, a mail plane, and sometimes as a liaison plane. (Photo m, page 102.)

HYDROPLANES

Savoia-Marchetti S-59 bis: (1) 1929-40; serial R-1. This plane belonged to Naval Aviation. It was used as transport but also in war missions of bombing and reconnaissance. (Photo n, page 102.)

Cant 10 ter: (1) 1929-33; serial -. A Naval Aviation hydroplane, it was used mainly as transport until 1933. (Photo o, page 102.)

Macchi M-18 AR: (2) 1933-47; serial R-3 and R-5. Naval Aviation planes. "R-3" was lost in an accident in 1935. "R-5" was used as a bomber. In 1934, it conducted the first night bombing mission in Latin America. These aircraft were also used for aerial photography. (Photo p, page 102.)

Acknowledgments: The author would like to express his gratitude to Col (Retired) Agustin Pasmor, the Military Aviation Maintenance Chief of the Paraguayan Army during the Chaco War, for his invaluable help.

Antonio Luis Sapienza (SAFCH #), PO Box 2721, Asuncion, Paraguay.

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"Recently released in Poland are two new 1/72-scale decal sheets from the HI DECAL LINE. Both are in their Gulf War series and, besides Iraqi aircraft, markings for the following aircraft are included:

"72-005 MiG-29: Soviet Air Force red '46' with National Guard markings; East German black '604' with special markings; West German '29+14'; Polish Air Force 1st Air Regiment red '105' with mermaid regimental insignia.

"72-006 Mi-8/17: Two Soviet, red '5' and red '13'; three East German including an SAR example; one West German '93+64'; two Polish white '605' and '610'; and the most eagerly awaited Hungarian Air Force in new chevron insignia red with white outline '10424'.

"Full stenciling in Polish, German, Hungarian, etc. is included at the bottom of each sheet.

"These are super decal sheets. The register on my copies is excellent - even those tricky small West German black numbers outlined in white are superbly printed. These sheets are highly recommended! Coming soon from the same manufacturer: MiG-21, and MiG-23/27.)

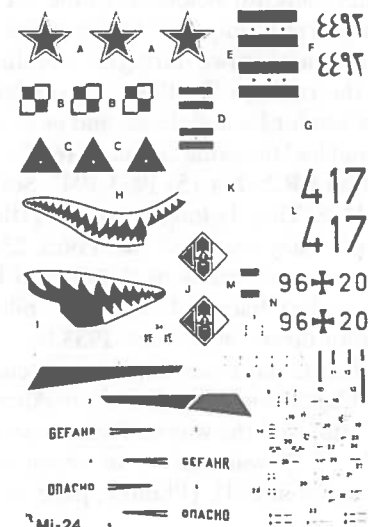
"Also for SAFO readers are some new TECHMOD releases: 72-048 Fairey Barracuda in New Zealand markings; 72-040 A6M2 Zero in Chinese markings, and 72-047 Polish National insignia from 3 mm to 17 mm. The tiny chessboards have even smaller 'POLAND' inscriptions for PAF Squadrons in Great Britain."

Wojciech Butrycz (SAFCH #981), ul. Facimiech 12A m.25, 30 667 Krakow, Poland.



"The HI-DECAL LINE sheet on the Mil Mi-24 Hind D/E has been released. Although up to the usual high quality we have come to expect from this company, this sheet is a bit of a disappointment for Polish-Air-Force enthusiasts because it does not include the colorful air regiment markings consisting of a vulture or a scorpion. This, however, is partially compensated for by the inclusion of the large sharkmouth insignia that has appeared on at least one PAF machine (see Lotnictwo/Air International 91/6). The other subjects featured on this

sheet are for East Germany; West Germany; two Soviet, and, the now obligatory, Iraqi machine. These subjects are certainly 'fashionable', but they have already been well covered by both kit and specialty decals. This sheet would have been much more interesting if it had covered Peruvian, Algerian, Hungarian, etc. schemes." Wojciech Butrycz (SAFCH #981), ul. Facimiech 12A m.25, 30 667 Krakow, Poland.



"Following Cyclone Val in Western Samoa, in December 1991, the RNZAF was busy with relief work. A 5 Sqn. Orion was used to access the damage and determine what aid would be needed. This was followed by the arrival of several 40 Sqn. Hercules, the first carrying a 3 Sqn. Iroquois helicopter. The frigate HMNZS Canterbury and its Wasp helicopter were also sent. In January 1992, Cyclone Betsy hit Vanuatu and a 42 Sqn. Andover was sent to the Islands, staying more than a month. "Under Project Athene, the five C-130H Hercules of 40 Sqn. are to get new Honeywell auto-pilots in place of the existing E-4 system. Conversion of all five aircraft is due between March and August 1993, although exact timing depends on when the aircraft are due for depot-level maintenance. This auto-pilot is also being fitted to the Australian Hercules fleet.

"On 1 March 1992, I went to an air display at Whenuapai, RNZAF Base Auckland. On static display were Hercules NZ7003 and NZ7005, both of which carried a low visibility version of the squadron's Compass Rose emblem on the fin. A black and gold version of this was originally applied to the aircraft in the 1970's, but was deleted when the aircraft were camouflaged in 1986-88. This time the emblem is in black only with the area that were previously gold left bare allowing the background

colors to show through. At the top is a three-pointed Prince-of-Wales Feathers, also in black, and the number 40. When I asked one when this marking had first been applied to the aircraft, someone replied said since August 1991. This is the first time I have seen this markings or ever a reference to it!

"The third batch of three Aeromacchi MS339CB trainers arrived at Ohakea on 22 February 1992 aboard a Martinair DC-10 freighter. This brings to nine the number so far received by the RNZAF." Paul Adams (SAFCH #773), 81 Ponsoby Road, Ponsoby, Auckland 1, New Zealand.

"In the review of the Aeroarchiv book on the Avia B-534 in SAFO #62, mention was made of the 'hooked' version. Here is some information: Three aircraft were acquired by Germany after the occupation to be fitted with tail hooks for experiments ashore with the arresting system being developed for the aircraft carrier "Graf Zeppelin" and to train pilots in deck landing. These trails were carried out at Travemunde in 1940 and/or 1941 (I've never seen the exact date) and apparently were not too successful. Two photos in Vol. 1 of Vaclav Nemecek's "Ceskoslovenska Letadla" show a B-534 with civil registration D-IUIG making a hook-arrested landing at an airfield.

"I've read somewhere that the B-534 was considered for operational use aboard the carrier. I find this unlikely, although a B-534 reportedly once out-performed a Bf-109 in a mock combat. Whatever the truth, the matter became moot, since the ship was never completed."

R.D. Layman (SAFCH #619), 50 Mohawk Ave., Corte Madera, CA 94925.

"May I inform you about a three-part article in "Le Fana de l'Aviation" (February, March, & April 1991) devoted to the story of aviation in Indochina after the French withdrawal and before the Vietnam War? The study of South Vietnam, Laotian, and Cambodian air forces is very interesting with much information, rare color photos, and side-view drawings of many aircraft of US and French ancestry.

"In the same magazine (April 1991), two pages of color photos are devoted to the Spanish Do-27. This is a must for anyone wanting to do the Huma kit. Address: Le Fana de l'Aviation, 15-17 Quai de l'Oise, 77019 Paris, France. Each issue 26 FF Christian Hotte (SAFCH #902), 24 rue de la Picardie, F-44470 Carquefou, France.

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"It is now time to inform you that I will soon be publishing the first of a new aircraft history magazine. As you can imagine, this is a real challenge for me and I hope SAFCH members will be interested in subscribing. The contents will consist of 25% 1914-1918, 50% 1918-1945, and 25% 1946-present, and there will be a modeling article in every issue. The first issue should appear in September 1992.

Each issue will consist of 48 pages including 8 pages in color. The first four issues are already closed down and the contents are as follows:

No. 1: Dewoitine D-520 in the Battle of France; Henschel HS-129 (with some Romanian AF

photos); Kaproni Bulgarski KB-11; Caproni CA-3/5 dans l'Aviation Francaise 1914-1918; Morane Saulnier MS-760 "Paris"; Marin la Meslee (French WWII ace); Avia B-135 (Modeling MPM 1/48 kit). No. 2: Bloch MB-131; La RAF en France 1939-40 (Part 1); Le 1er combat aerien; Les marques des avions franquistes de la Guerra d'Espagne; L'Aviation Nord-Vietnamienne; L'Aviation Navale Yougoslave on Avril 1941; Hurricane Mk-I (Modeling Airfix 1/48)

No. 3: Junkers Ju-87G; La RAF en France (Part 2); Fokker C-XI-W; Macchi 200 (Part 1); Les Caproni CA-5 de l'US Navy 1918; Les F-104 canadiens; Macchi 200 (Modeling 1/48 kit);

No. 4: Mystere II; Ju 88 A-4/D (with Romanian and Hungarian AF photos); Les camouflages et marques de la ML-KNIL (Part 1); Hanriot HD 1 et 2; Bloch 200 (Part 1 - la version francaise); Les Aces chinois et leurs avions; MB-152 (Converting JMGT's MB-152 into a 151).

The subscription rate is 350 F (US \$62.30 at the exchange rate extant 24 April 1992) for 12 issues. Every six months we will publish an extra-issue; the first one is "L'Aeronautique Navale sept. 1939 - juin 1940" and it will appear in January '93.

Michel Ledet (SAFCH #), 39 rue A. Briand, 62200 Boulogne/Mer, France.

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MiG-17 FRESKO IN ACTION, Hans-Heiri Stapfer. 54 pages, 11 in. by 8.25 in., 93 b&w photos, color covers, 10 color side-view drawings. Softbound. Squadron/Signal Publications \$7.95.

The IN ACTION series, with its artful mix of text, photographs, scale drawings, color side-view drawings, and action paintings, all reproduced to the highest quality, has set a standard that few other publishers have been able to equal. This issue, on the MiG-17 Fresco, is no exception and, therefore, needs little explanation. All the principle variants of the Fresco are covered: The main external difference between the MiG-17 Fresco A and the MiG-17F Fresco C is the enlarged airbrakes and afterburner of the latter. The MiG-17PF Fresco D was equipped with a prominent nose radar but retained the gun armament of the earlier versions, while the MiG-17PM Fresco E was similar to the

Fresco D except for the replacement of the guns by missiles. Other major variant covered are the Polish-built Lim-6bis which is essentially a Fresco C with a large tail fairing for the braking parachute, and the two-seat Chinese JJ-5.

Three-view scale drawings are included for the Fresco C, Shenyang JJ-5, and Fresco E. The color side-view drawings cover Fresco A's in the markings of the USSR (Czech invasion stripes) & Mongolia; Fresco C's in the markings of Nigeria, Syria (in camouflage), & Cambodia; a camouflaged Lim-6bis in Polish markings; Fresco D's in Soviet and Bulgarian (camouflaged) markings; a Soviet Fresco E, and a Pakistani FF-5 in an attractive two-tone grey over blue camouflage. The front cover shows a North Vietnam Fresco F "In Action" and the back cover shows a similarly employed Afghanistani Fresco A and a camouflage Egyptian Fresco C with

bomb racks and rocket rails making an attack on an Israeli convoy during the Six Day War.

The authoritative text cover the development of all these variants as well license-manufactured aircraft in Poland and China and locally converted East German fighter-bombers. Numerous special projects are described, including the unusual SN with articulated cannon and the ugly Lim-5M with enlarged wing roots and dual-wheel landing gear. The MiG-17 Fresco book will provide inspiration for a number of small-air-force schemes as well as ideas for several interesting conversions. The two-seat JJ-5 doesn't look too hard once you read that the MiG-15UTI cockpit was used.

Review copy graciously provided by Squadron/Signal Publications via Leo Opdycke of WWI Aero.

ALPHA JET UPDATE

Hubert Cance

[Author's note: Thanks to help from SAFO readers I am able to provide complete schemes for the two Alpha Jets that were incomplete when my article on the Alpha Jet was published in SAFO #. I've also included a new anniversary scheme for a Belgian Alpha Jet. The response to my article on the Sikorsky S-58 (SAFO #60) was been great, but I think I'll wait about one year before I publish an update to allow time to receive all responses.]

NIGERIAN ALPHA JET EXPORT NAF-152.

Notes: Black dorsal antenna and antiglare panel; standard markings in English; national flag on tail; roundel (green/white/green) in six positions; red stripped yellow stripes on wings and tail. References: AIR INTERNATIONAL, Vol. 26, No. 6, pg. 312. MILITAIR 1982, pg. 224. Gesch. v/d Luchtvaart "Air forces of Africa, Asia, and Latin America". Acknowledgement: Drawings completed with the help of Franz Scheve (SAFCH #1090) and some photos of unknown origin.

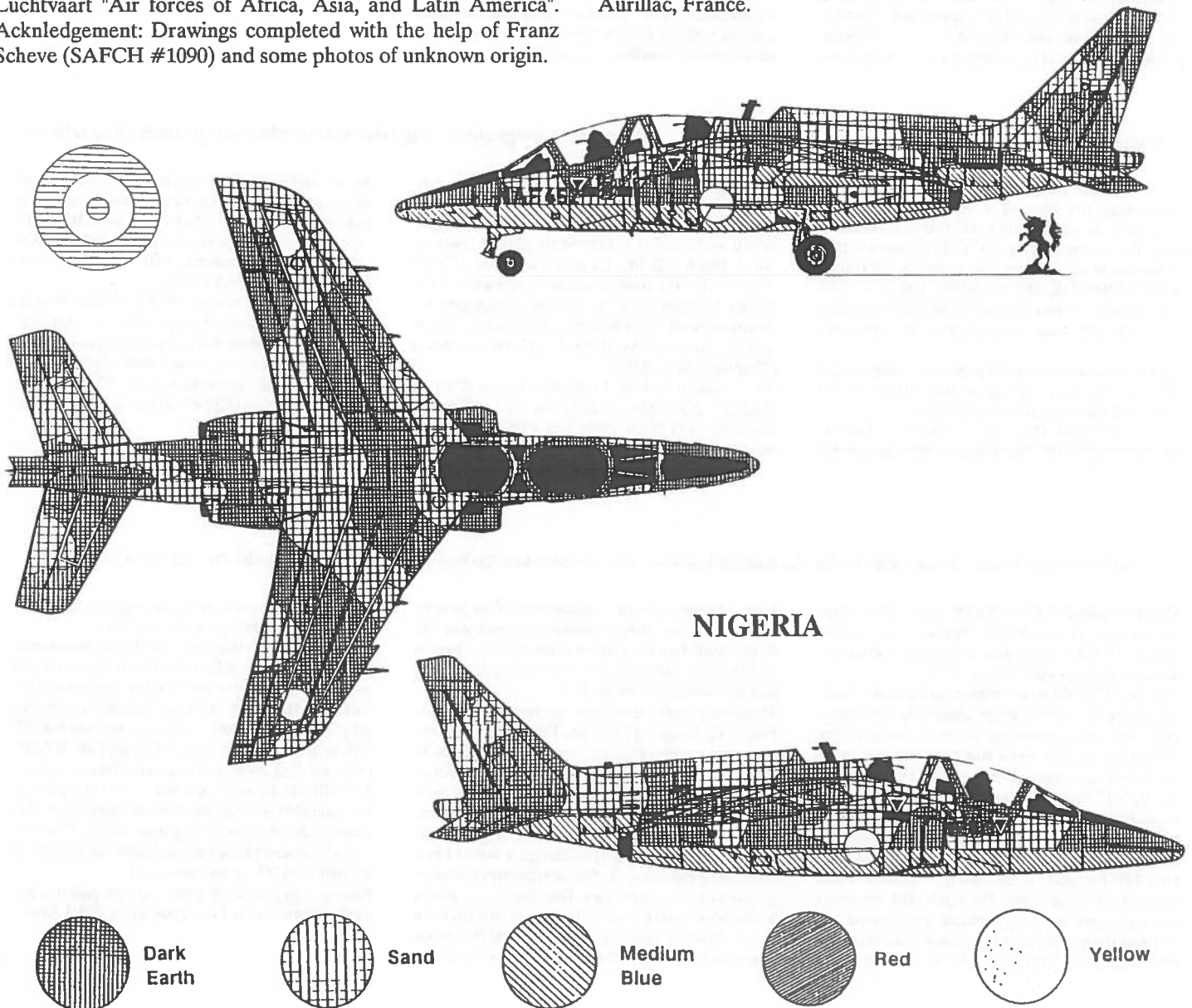
CAMEROON ALPHA JET MS-2.

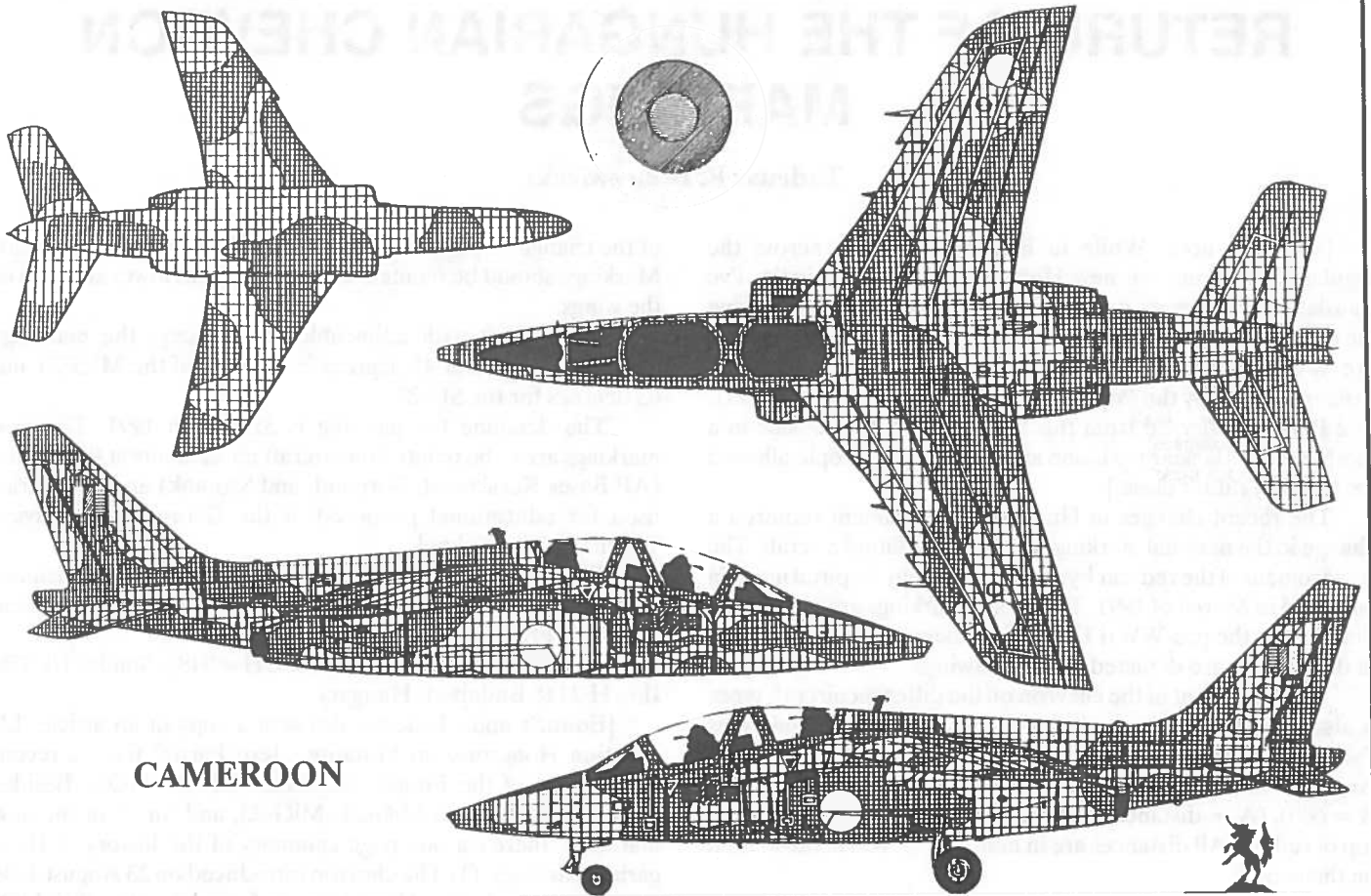
Notes: Black dorsal antenna and antiglare panel; standard markings; national flag on tail; roundel (green/red/yellow) in six positions; red striped yellow stripes ins wings and tail. References: Historavia Gisserot, No. 2: "{Alpha Jet", pg. 19. Aviation Design No. 12, pg. 55. Avions & Pilots, Vol. 1, pg. 267.

BELGIAN AIR FORCE AT-11.

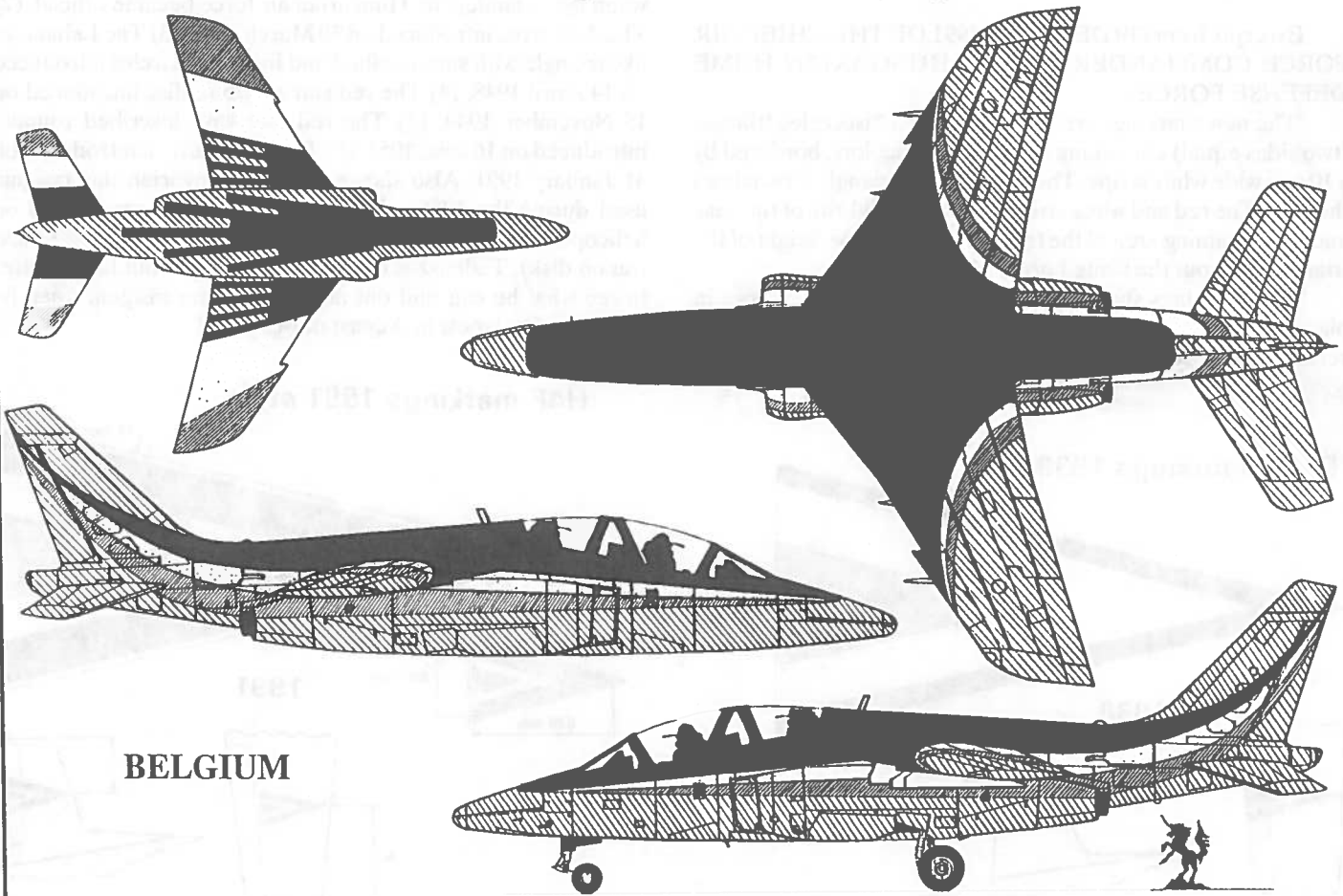
Color scheme designed by Christian Borsu and applied by the pupils at the Ecole de Pilotage Avance (Advanced Pilot School). Plane flown during the 1990 airshow season by Cdt. Avi. Dany Payeur. References: Carnets de Vol #69, pgs. 44 & 45. Carnets de Vol #70, pgs. 10 & 11. Le Fana #249, pg. 48.

Hubert Cance (SAFCH #), 56 Bd. E. Lintilhac, 15000 Aurillac, France.





CAMEROON



BELGIUM

RETURN OF THE HUNGARIAN CHEVRON MARKINGS

Tadeusz P. Dobrowiecki

[Author's note: While in Budapest, I came across the regulation covering the new Hungarian national insignia. I've translated the relevant parts and made some drawings showing the difference between these markings and the chevron used in pre-WWII Hungary. I am also including a drawing of the helicopter used by the Pope during his visit to Hungary in 1991. The Pope transferred from this helicopter to a limousine in a football stadium near my home and the security people allowed me to stand rather close.]

The recent changes in Hungarian government required a change in the national markings applied to military aircraft. The replacement of the red star by a more nationally inspired insignia occurred in March of 1991. These new markings are not exactly the same as the pre-WWII Hungarian chevron. The differences in dimensions are depicted on the drawings.

The placement of the chevron on the different aircraft types is also specified in the regulations. The copy of the regulations I've seen included drawings for the L-410 (A = 3000, B = 1000), An-24 & An-26 (A = 6000, B = 3000 ?), and Zlin 43 (A = 1500, B = 600). (A = distance from the wing tips; B = distance from top of rudder. All distances are in mm. The "?" was hand-written on the copy.)

Excerpts from ORDER No 12/1991 OF THE CHIEF AIR FORCE COMMANDER OF THE HUNGARIAN HOME DEFENSE FORCES

"The new markings are in the form of a *isosceles triangle (two sides equal) containing the national tricolors, bordered by a 10 mm wide white stripe. The height of the triangle is two times the base. The red and white stripes have a width 1/6th of the base and the remaining area of the triangle is green. The height of the triangle (without the white border) is 800 mm.

"The markings should be painted on the aircraft types in places specified on the attached drawings in such a way that the vertex of the triangle points in the direction of flight, and the axis

of the triangle is parallel to the longitudinal axis of the aircraft. Markings should be painted on the upper and lower surfaces of the wings.

"On aircraft with adjustable wing sweep, the markings should be painted at 45 degrees in the case of the MIG-23 and 63 degrees for the SU-22.

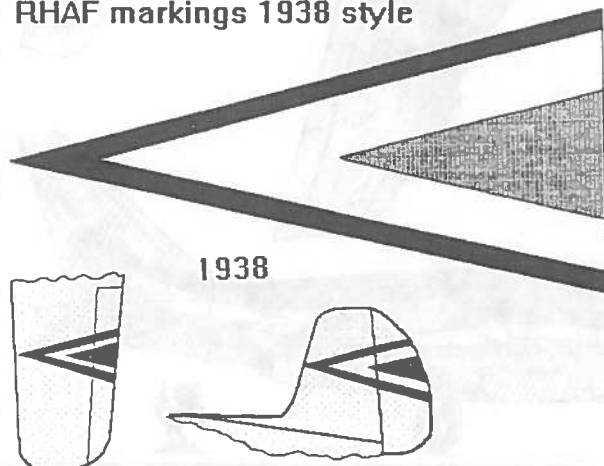
"The deadline for painting is 31 March 1991. The new markings are to be painted on aircraft monuments at flight units (AF Bases Kecskemet, Borgond, and Szolnok) and on aircraft used for educational purposes at the Gyorgy Kilian Flying Technical High School.

"The new markings need not be painted on aircraft belonging to flight units' museums and to the Museum of the Technical School of Flying."

Tadeusz P. Dobrowiecki (SAFCH #948), Somloi Ut 37/a II/6, H-1118 Budapest, Hungary.

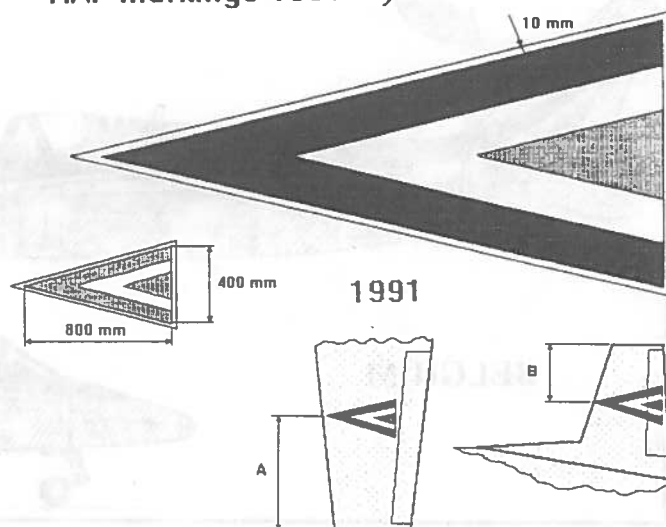
[Editor's note: Tadeusz also sent a copy of an article "L'Aviation Hongroise en Mutation: 1ere Partie" from a recent (#33) issue of the French magazine AIR ACTION. Besides photos of Hungarian MiG-21, MiG-23, and Su-22 in the new markings, there's a one-page summary of the history of Hungarian markings: (1) The chevron introduced on 23 August 1938 when the *clandestine Hungarian air force became official. (2) The Axis cross introduced on 30 March 1942. (3) The Lebanese-like triangle with superscribed and inscribed circles introduced on 14 April 1948. (4) The red star on white disc introduced on 15 November 1949. (5) The red star with inscribed roundel introduced on 16 June 1951. (6) The new chevron introduced on 31 January 1991. Also shown are the Hungarian flag insignia used during the 1956 rebellion and the markings carried on helicopters in October 1990 during the elections (a white chevron on disk). Tadeusz is currently in Belgium, but he promises to see what he can find out about this latter insignia when he returns to Budapest in August of this year.]

RHAF markings 1938 style



1938

HAF markings 1991 style

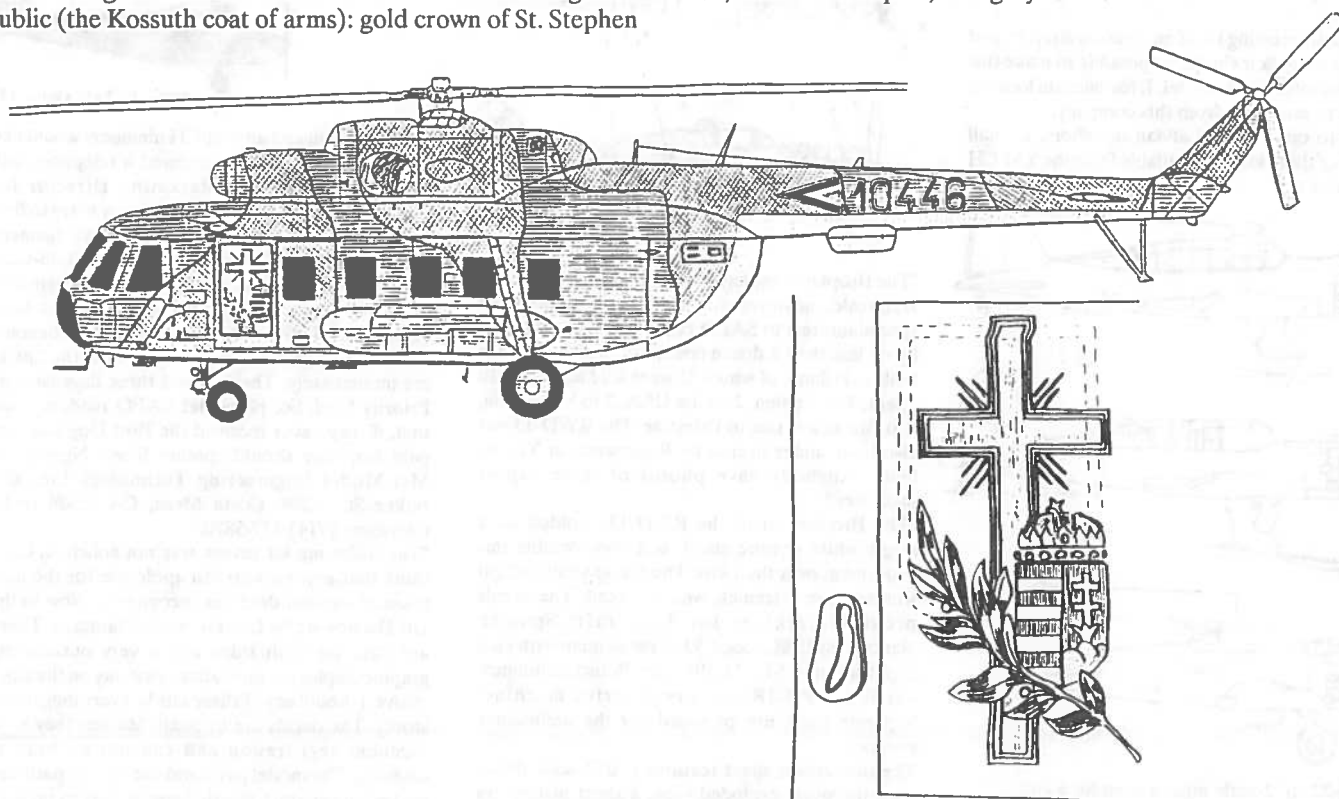


1991

Tadeusz Dobrowiecki

with a bent cross and red and green jewels, red & white stripes on the left half of the shield, and, on the right side, a white cross on a red background emerging from a gold crown laying on green hills. The cross and coat of arms are bond together by a dark gold/brown branch with red fruit.

Tadeusz P. Dobrowiecki (SAFCH #948), Somloi Ut 37/a
II/6, H-1118 Budapest, Hungary.

[illegible]

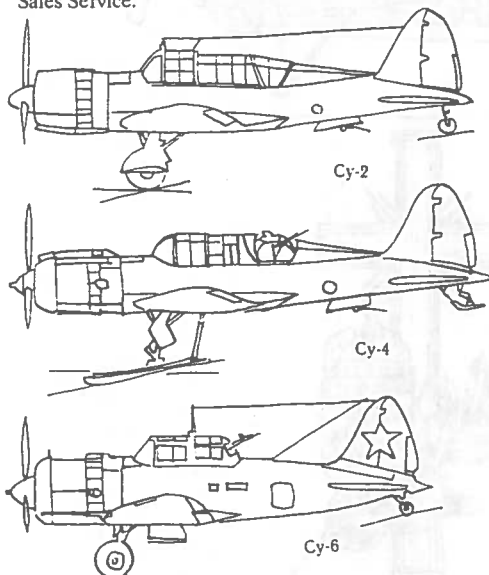
Also from Russia, but considerably more amateurish than the G-11, comes an injection-molded kit of the Sukhoi Su-4 two-seat attack bomber of 1940. Molded in white plastic, the kits consists of two fuselage halves, 4 wing panels, two frames for the smaller parts, and a clear plastic canopy. The main parts are fairly well molded with very fine raised panel lines on the surfaces of the wings and interior details molded into the sides of the cockpit. The smaller parts are, however, "chunky" and subject to quite a bit of flash. Unfortunately, all the control surfaces are separate parts

(shades of ancient Airfix and Frog kits) and the fabric detail on these is grossly overdone. Cockpit detail consists of a floor with side panels, the pilot's seat (did the gunner have to stand all the time in these Soviet two-seaters?), and a rudimentary instrument panel (probably not unlike the real aircraft). The engine is quite crude, but not much of it will be seen behind the tight-fitting cowl. Alternate wheel or ski undercarriage are provided. The one-piece canopy and turret is thick with ill-defined frames. It's best use would be as a master on which to vacuform a new canopy and separate turret.

An unusual touch is inclusion of a 24-page booklet which includes side-view drawings of the Su-4 and its ancestors (ANT-51, Su-2) and its progeny (Su-6), photos of both the full-scale aircraft and a completed model, and color side-view drawings of three aircraft. There are no decals, but red stars and Russian-style numbers should be readily available elsewhere.

This is an interesting kit of an unusual aircraft, and with a lot of work it should be possible to make this kit into an interesting model. I, for one, am looking forward to more kits from this company.

Thanks to one of our Latvian members, a small number of these kits are available from the SAFCH Sales Service.



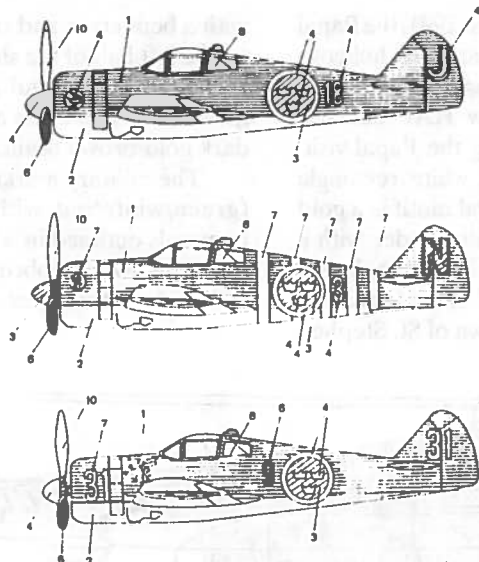
FFVS J-22, 1/72-scale injection-molded kit.

"I would like to inform our readers of a surprising new kit recently issued in Poland by a multinational company. MARIVOX, a joint Polish-Swedish venture, has just released a 1/72-scale kit of the Swedish FFVS J-22 WWII fighter. The 40, or so parts, nicely molded in dark grey plastic, resemble those of the TS-11 and P-7a issued recently in Poland. Perhaps all these kits came from the same toolmaker's workshop. In any case, these moldings are not those associated with short-run kits, but are more on a par with Heller and Italeri. The one-piece transparent canopy is, as for all Polish-produced kits, not the best achievement, but it is acceptable. The instruction sheet is in Swedish, English, and German and the colors are referred to Humbrol paints. The decal sheet and the attractive box art presents no less than 5 different aircraft, all in Swedish Air Force markings.

"As I am absolutely ignorant of Swedish aircraft, I haven't the slightest idea of the model's accuracy. Perhaps one of our Scandinavian members can provide an article with 1/72-scale drawings and information on the colors used on this aircraft.

"Prominently displayed under the MARIVOX logo

on the box cover is the figure "No. 1". Is there hope for further kits by this company? Will they be aircraft of Swedish origin or, perhaps, other lesser known types? One can only hope MARIVOX will not give up and we will see more kits from them." Wojciech Butrycz (SAFCH #981), ul. Facimiech 12A m.25, 30 667 Krakow, Poland.



"The Broplan company has just released its seventh 1/72-scale, vacuform kit. The RWD-13 should be of special interest to SAFO readers since it was used by no less than a dozen countries. Some 110 were built in Poland, of which 21 were sold abroad: 4 to Spain, 3 to Yemen, 2 to the USA, 2 to Venezuela, 6 to Brazil, and one to Palestine. The RWD-13 was also built under license by Rogozarski in Yugoslavia. Anybody have photos of these export machines?"

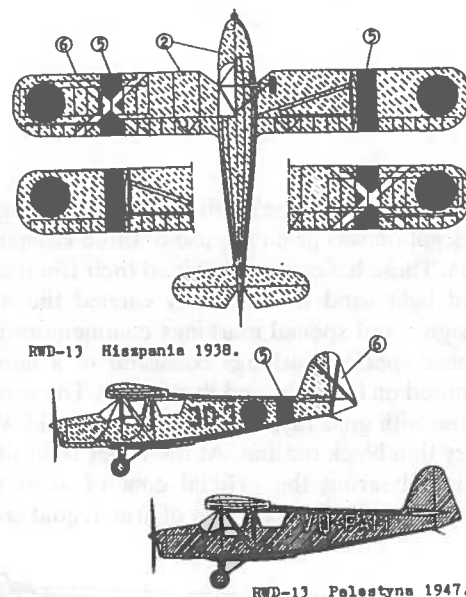
"The Broplan kit of the RWD-13, molded on a single white styrene sheet, is a considerable improvement over their kits. The transparent cockpit windows are extremely well executed. The decals provide markings for 3 aircraft: Spanish Nationalist 1938, coded 30-3; Palestinian with civil registration VQ-PAM, 1947; and Polish ambulance version 'SP-BJR', a very colorful machine. Separate parts are provided for the ambulance version.

The instruction sheet features a 1/72-scale drawings, the usual exploded view, a short history (in Polish), and drawings for the 3 aircraft with all colors referenced (in English) to Humbrol paints. The kit appears to be accurate when compared to the only existing example which resides in the Krakow Aviation Museum.

"All the other Broplan kits issued so far (except for the PWS-10 which saw service in Spain) are of prototype aircraft (PZL-38 Wilk, PWS-15, PZL-46 Sum, PZL-50 Jastrzab, and LWS-3 Mewa) and are, as such, of interest only to the modeler of PAF aircraft. The RWD-13, however, saw wide service. Beside the exported aircraft mentioned above, many RWD-13's escaped from Poland in September 1939 and found their way into service with Romania, Latvia, Estonia, and Sweden.

"Rumors are that Broplan will be releasing kits of the LWS-4 Zubr bomber and the Fokker F-VII/3m. If this turns out to be true, I will open a bottle of expensive champagne! [Editor's note: So will I!]

Wojciech Butrycz (SAFCH #981), ul. Facimiech 12A m.25, 30 667 Krakow, Poland.



"I thought you and all SAFCH members would like to know that I recently received a telephone call from Kevin Nguyen, Marketing Director for Met/Model USA. He said he was very sorry to find out that I had never received any acknowledgement for the payment I had sent for two 1/48-scale L19/O-1 Bird Dog kits way back in 1988. Kevin said he is trying to find others who may not have received the kits they ordered. We spoke for some time, and he said he was going to mail the kits to me immediately. They arrived three days later by Priority Mail. So, please let SAFO readers know that, if they never received the Bird Dog kits they paid for, they should contact Kevin Nguyen at: Met-Model Engineering Technology Inc., 655 Baker St. F-208, Costa Mesa, CA 92626 or by telephone (714)-557-5870.

"The following kit review was not solicited, but I think that anyone who can apologize for the mistakes of another deserves recognition. Now to the kit: The box art, by Lou Drendel, is fantastic. There are data on both sides and a very outstanding graphic display for immediate visibility on the store shelf. (should any of these kits last very long in any store). The decals are by Scale-Master; they have excellent registration and can not be beat by anybody. The model parts and the canopy parts are packed in separate plastic bags, sealed to prevent breakage or loss, but readily available for inspection. The starboard door can be left open to reveal a complete interior. Other details include engine, interior gear, and rockets. Decals are provided for three different aircraft (USAF, VNAF, & Japan Air Self Defense). The instruction sheet is well designed and includes FS595 colors and color notes for interior items. This is a petite model, even in 1/48, so remember to take care during construction.

"This kit will appeal to both Korean War and Vietnam War modelers and, considering the many countries that used this aircraft, it should be of great interest to SAFO readers. The cost is a very reasonable \$12.00. Whoever buys this kit will not be sorry - that is if they are still in the hobby shop when he gets there.

"Model USA's first kit has already surpassed Monogram for quality, art work, data, part protection, and instructions. What is next? More Korean War aircraft, I hope."

Bill Shenk (SAFCH #599), 21957 Crescent Court, Farmington Hills, MI 48335.

BRAZILIAN NAVAL AIRCRAFT 1916-1941

Antonio Linhares

Introduction: The Aviation School, founded in the Brazilian Navy by Presidential Decree dated 23 August 1916, was established at Enxadas Island in Guanabara Bay, Rio de Janeiro. The first flying boat was assembled that month under the supervision of Orthon Hoover who gave instructions to four naval officers.

CURTISS F MODEL 1914

In 1916, the Brazilian Navy received three Curtiss F Model 1914 flying boats. These were the Navy's first aircraft and were serialized C1, C2, and C3. In 1918 a fourth Model 1914 was assembled at the School. These aircraft made many cross-country and local flights and participated in many local ceremonies. They remained in service until 1923.

CURTISS HS-2L

Numbered 10 through 15, the HS-2L served from 1918 to 1923 mainly on patrol duties. In 1919, numbers 10 and 11 established a weekly mail service with the fleet near Rio and number 13 flew at Santos where a new naval base had been founded.

CURTISS F MODEL 1916

In 1918, the Navy received four Curtiss F Model 1916 flying boats that served until 1923. Numbered 16 through 19, they were used for training Navy and Army officers, sailors, and civilian students.

CURTISS N-9H

Nine N-9H served in Brazil from 1919 to 1926. They received numbers 22 to 25, 38 to 41, and 47. In 1920, number 22 performed the first loop seen in Brazil.

AVRO 504K

During 1919, the Navy received its first Avro 504K as a donation from the Handley Page company. Later, 16 more were acquired. They were numbered A1 to A17. In 1921, the Navy adopted the Gosport School training program with called for initial training to take place on landplanes. During the revolution in Sao Paulo, in 1924, some Avros were equipped with machine guns. Two years later, three Avros established the first aerial link between Rio and Belo Horizonte. They served until 1930.

CONSOLIDATED NY-2

In 1927, the Brazilian Navy acquired three NY-2. These were initially designated 431 to 433. Later they were designated D1C-10 to D1C-12. "D" denoting general service, "1" the first type, and "C" Consolidated, followed by an individual aircraft number. The NY-2 served until 1933.

AVRO 504N

Received in 1928, they were used as both floatplanes and landplanes. Initially numbered 441 to 446, the remainder were later designated I2A-7 to I2A-9. "I" denoting instruction, "2" second type, and "A" Avro, followed by an individual aircraft number. They served until 1934.

SAVOIA MARCHETTI S-55A

In 1931, the Brazilian government acquired eleven Savoia Marchetti S-55A flying boats in exchange for coffee. They arrived in Rio under the command of Italo Balbo and were transferred to Brazilian Naval Aviation in a ceremony at the location

of the present-day Rio International Airport. The S-55 flew in Brazil until 1936. They were numbered 1 to 11 and designated P1S-16 to P1S-20. "P" denoting patrol, "1" first type, and "S" Savoia, followed by an individual aircraft number.

FAIREY GORDON

The Fairey Gordon was acquired to perform reconnaissance and bombing mission (Esclarecimento e Bombardeio, in Portuguese). Twenty Gordons were acquired and received serials E1F-47 to E1F-56, E1F-60 to E1F-66, E1F-54A, and E1F-56A (later 1-EB-1 to 1-EB-12). "E" denoting esclarecimento, "1" first type, and "F" Fairey, followed by an individual aircraft number. The Gordons served in the Navy from 1931 to 1941 when the remaining four were transferred to the newly formed Brazilian Air Force.

BOEING F4B-4 (MODEL 256)

Six Boeing Model 256 were acquired by the Brazilian Navy in 1932 and were designated C1B-33 to C1B-38. "C" denoting casa (fighter), "1" first type, and "B" Boeing, followed by an individual aircraft number. They were serialized in US Navy fashion: C1B-35 carrying serial I-C-20 with "1" denoting the 1st Division, "C" casa, followed by an individual aircraft number. In January 1941, the remaining two Navy Boeings were transferred to the new Brazilian Air Force where they served until 1946.

VOUGHT V-66B CORSAIR

Eight V-66B were purchased in 1933 receiving designations O2V-39 to O2V-46 denoting the 2nd type of observation aircraft of the Vought type. The code shown on the drawing, 2-O-6 denotes the sixth aircraft of the 2nd Observation Squadron. (Author's note: The designation O2V-28 in the drawing is probably in error.)

WACO CSO

Eight Waco CSOs flew for the Navy both as land planes and as floatplanes from 1933 to 1941. They were used as mailplanes along the south coast. Designated D1W-67 to D1W-74 with "D" denoting general service and "W" denoting Waco. Codes were 1-D-1 to 1-D-8, denoting first type, 1st Division, and an individual aircraft number. In January 1941, three CSOs remained to be transferred to the Brazilian Air Force.

North American NA-46

In 1939, twelve NA-46 were received by the Navy. These were designated V1NA and numbered from 192 to 203. They equipped the 1st Military Training Squadron and were all transferred to Brazilian Air Force in 1941.

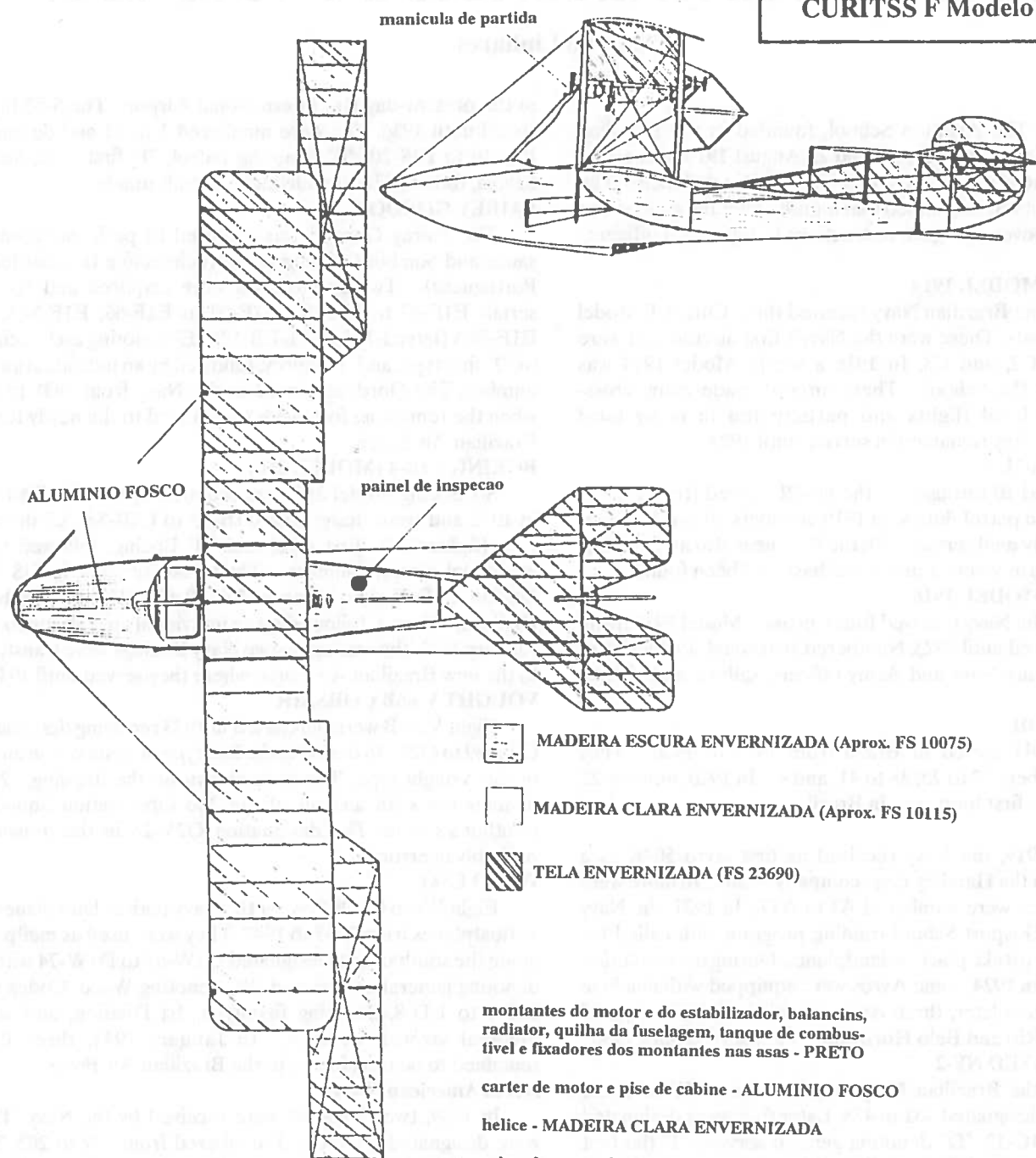
Postscript: On 20 January 1941, the Aeronautic Ministry was established by Presidential Decree, and all equipment and material of both Naval and Military (Army) Aviation was transferred to the newly-formed Brazilian Air Force.

Translation by Annabella Linhares

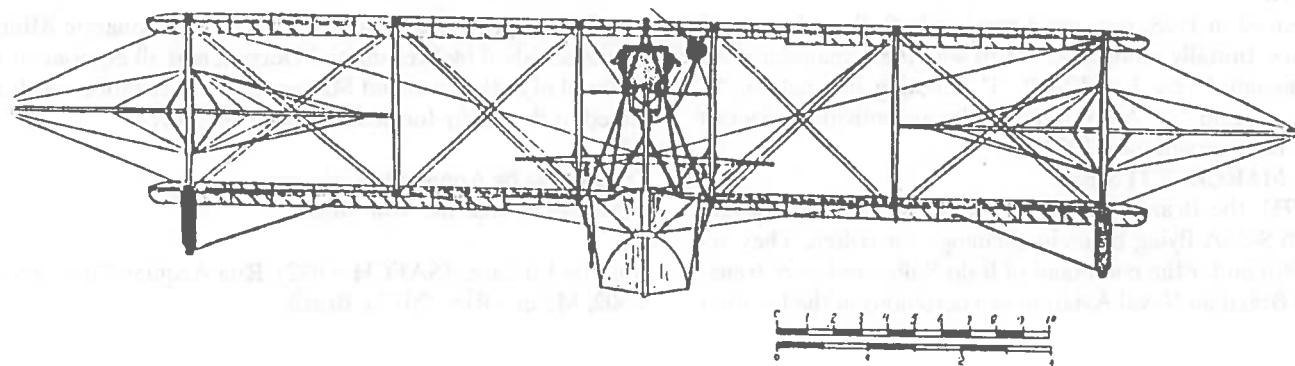
Drawings by Jose de Alvarenga

Antonio Linhares (SAFCH #632), Rua Arquias Cordeiro 316-S/502, Meier - Rio - 20770, Brazil.

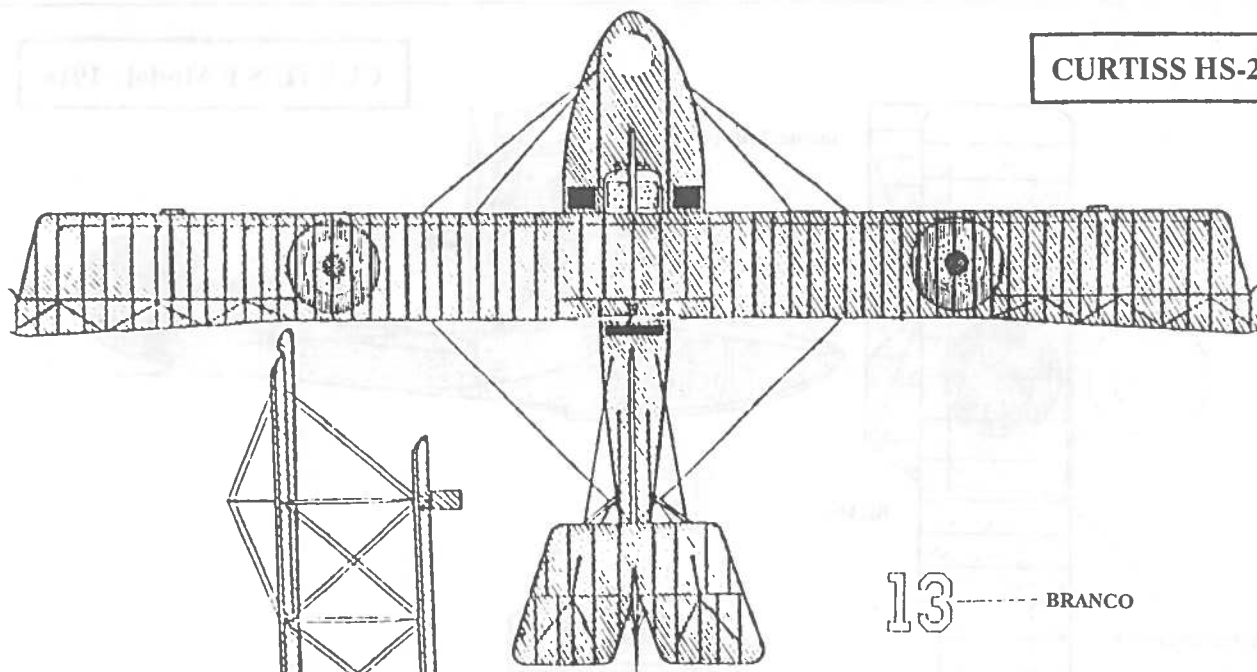
CURITSS F Modelo 1914



tanque de combustivel



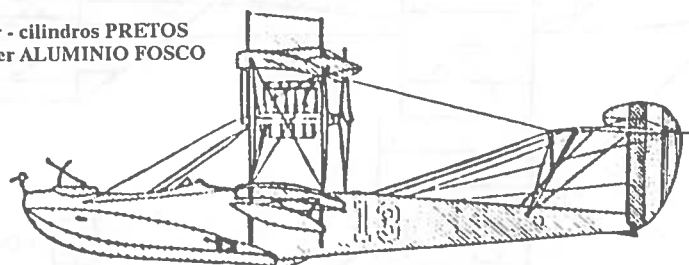
CURTISS HS-2L







13----- BRANCO

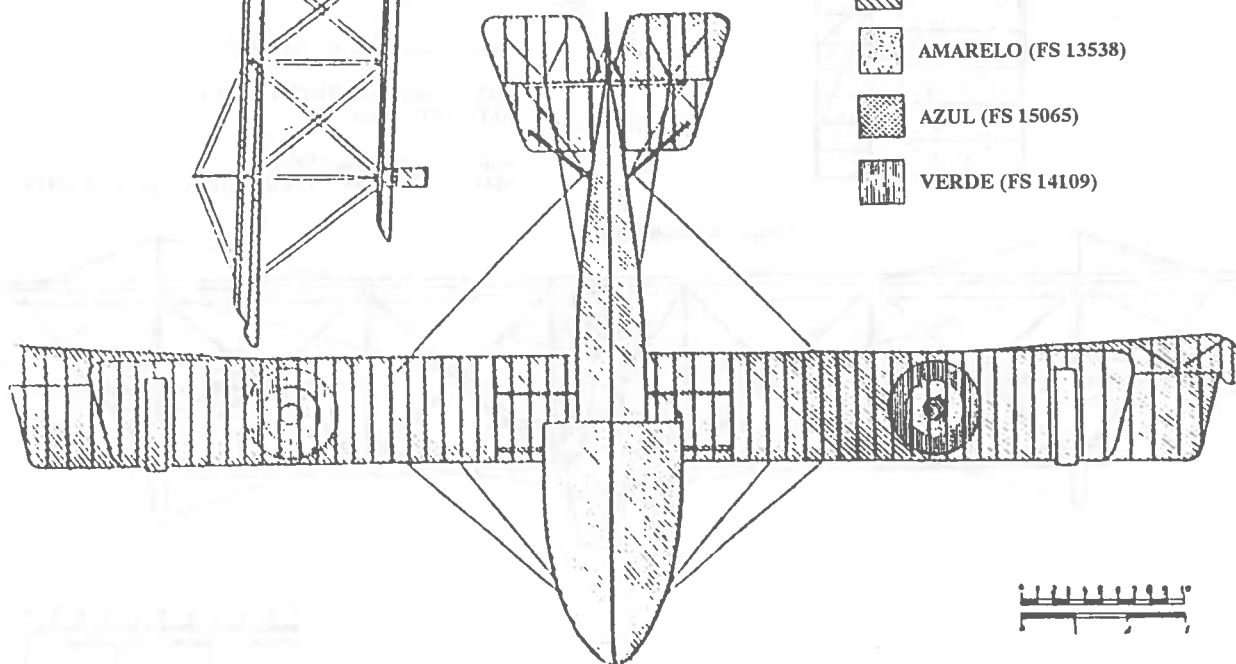
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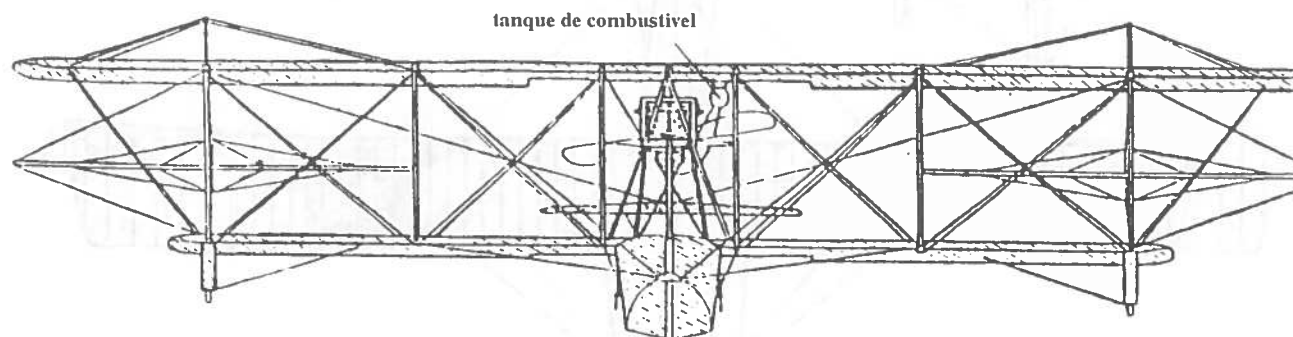
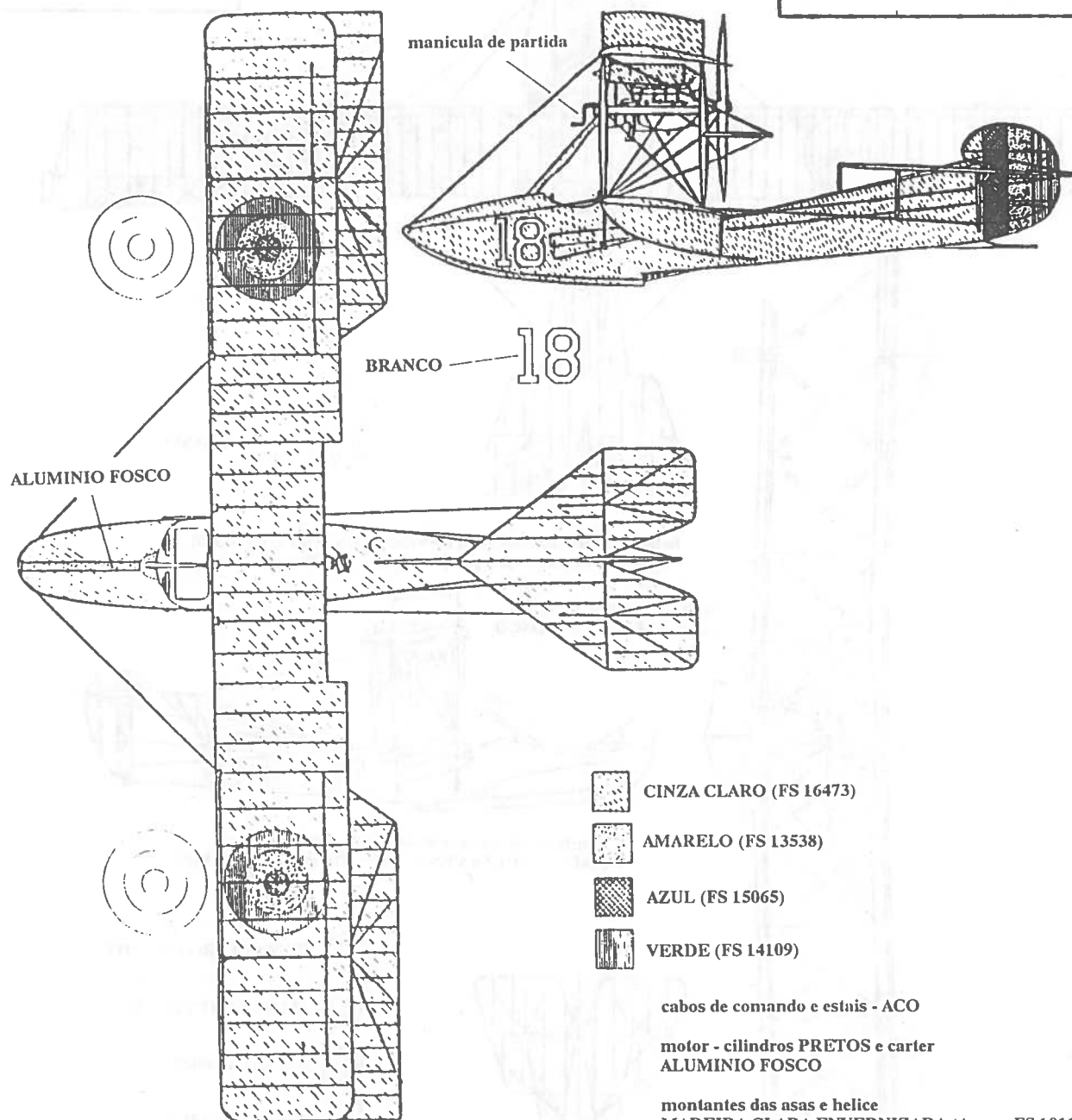


Montantes das asas e do estabilizador -
MADEIRA CLARA ENVERNIZADA (Aprox. FS 10115)

-  CINZA CLARO (FS 16515)
-  AMARELO (FS 13538)
-  AZUL (FS 15065)
-  VERDE (FS 14109)



CURTISS F Modelo 1916



CURTISS N-9H

motor PRETO

PRETO

40

montantes das asas e dos flutuadores -
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(Aprox. FS 10115)

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AZUL (FS 15065)

CINZA CLARO (FS 16473)



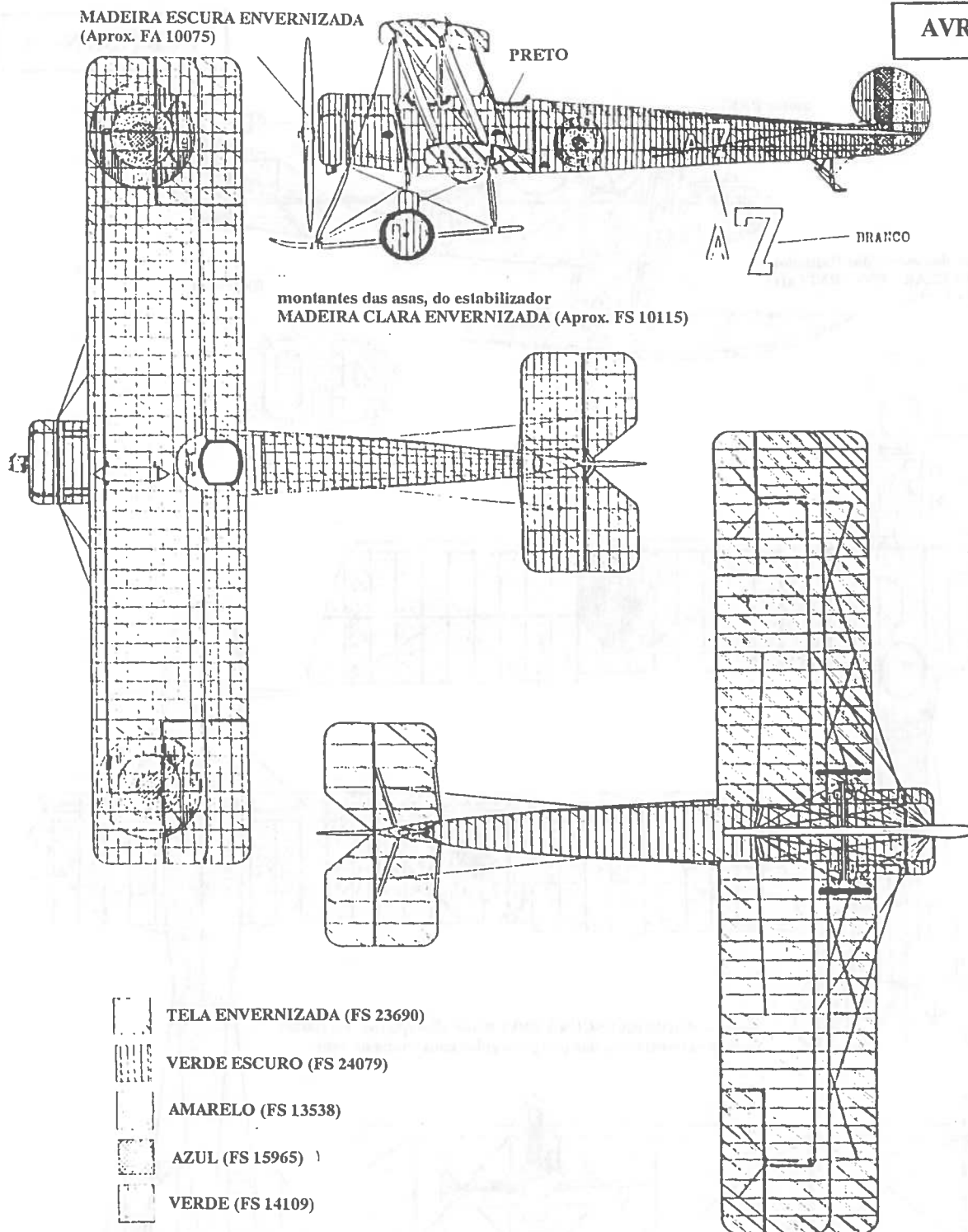
MADEIRA ESCURA ENVERNIZADA
(Aprox. FA 10075)

AVRO 504K

PRETO

BRANCO

montantes das asas, do estabilizador
MADEIRA CLARA ENVERNIZADA (Aprox. FS 10115)



TELA ENVERNIZADA (FS 23690)

VERDE ESCURO (FS 24079)

AMARELO (FS 13538)

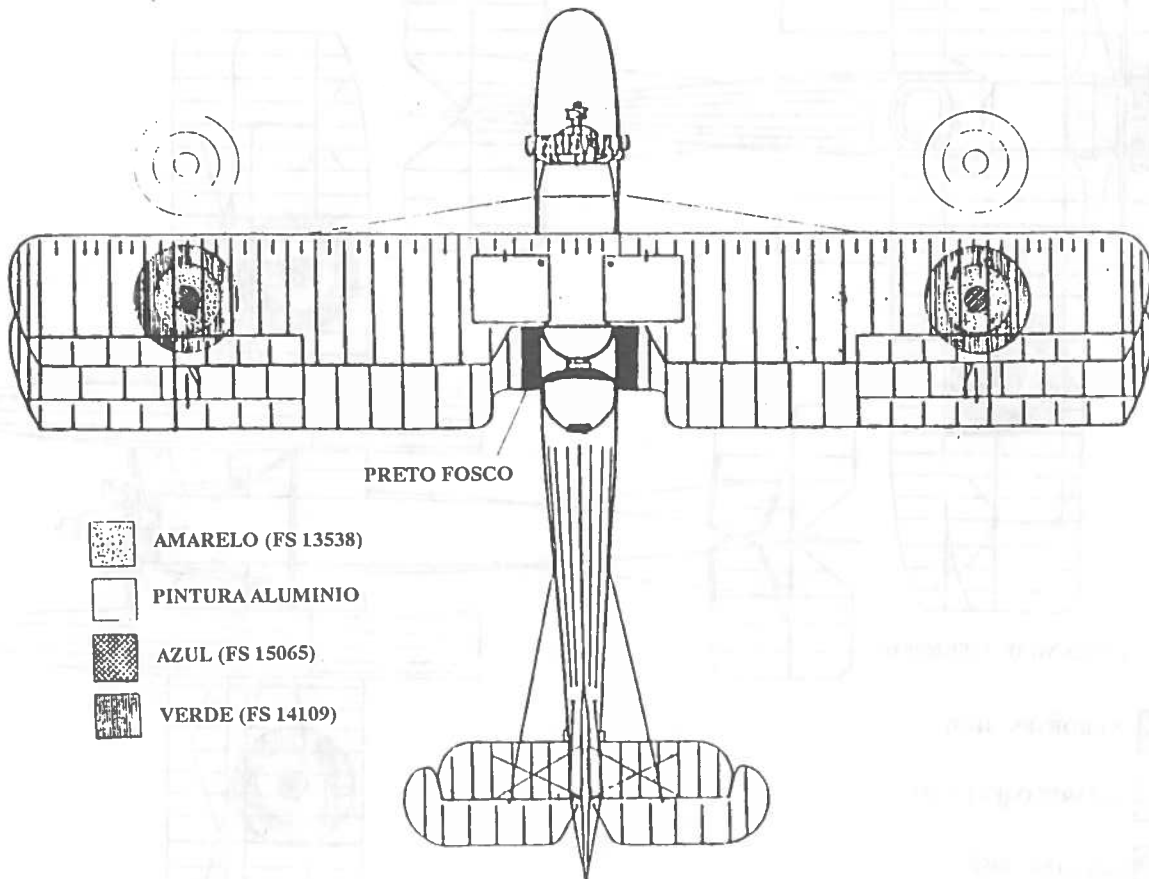
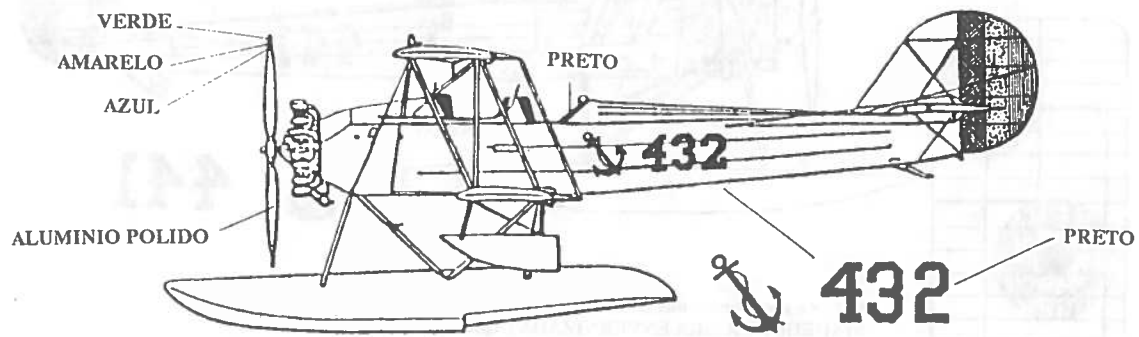
AZUL (FS 15965)





VERDE (FS 14109)

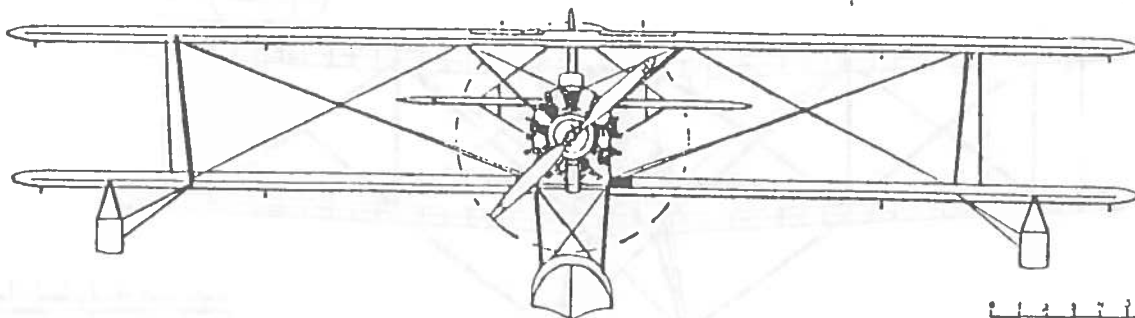
motor - cilindros PRETOS
carter - ALUMINIO FOSCO



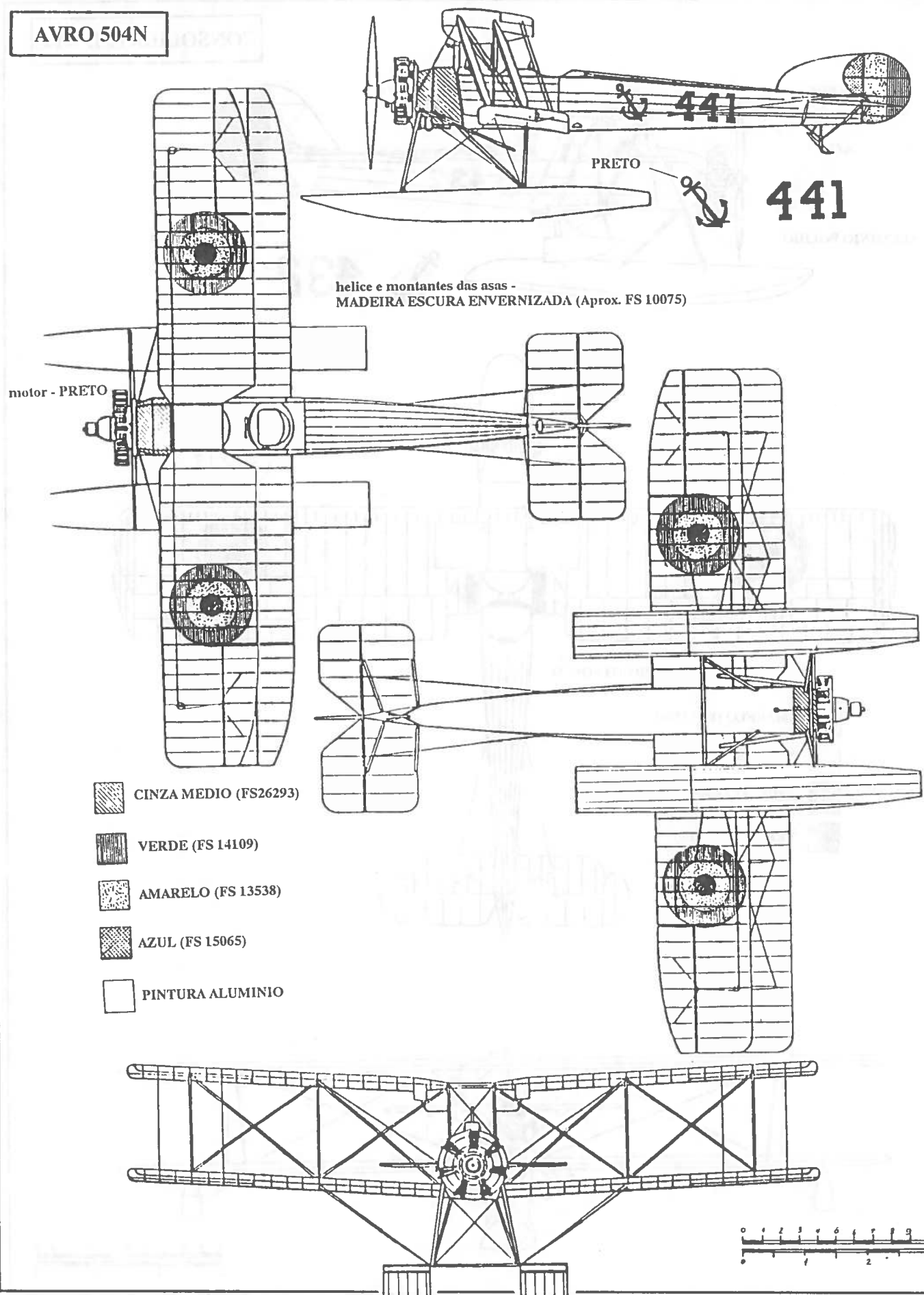
CONSOLIDATED NY-2



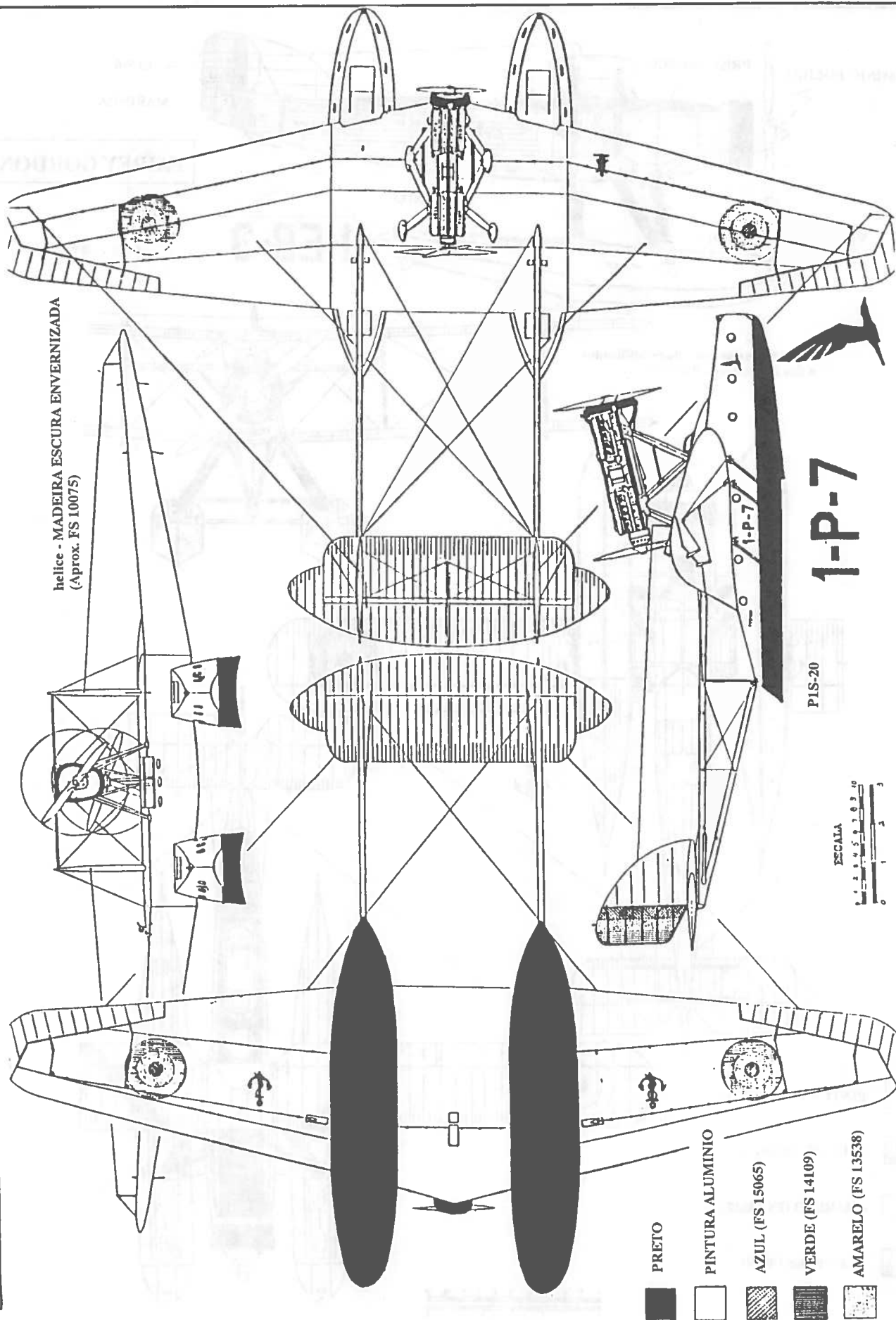
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-  PINTURA ALUMINIO
-  AZUL (FS 15065)
-  VERDE (FS 14109)

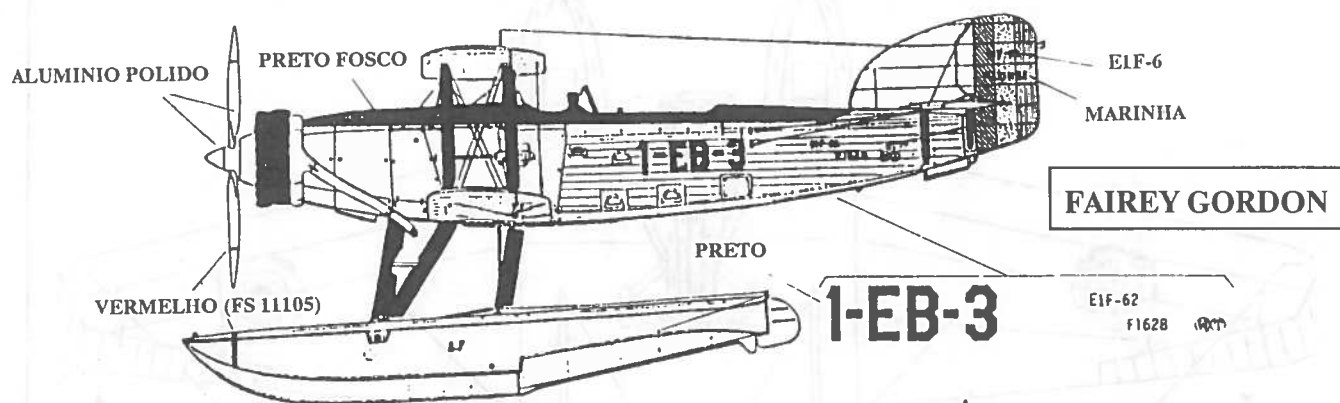


AVRO 504N

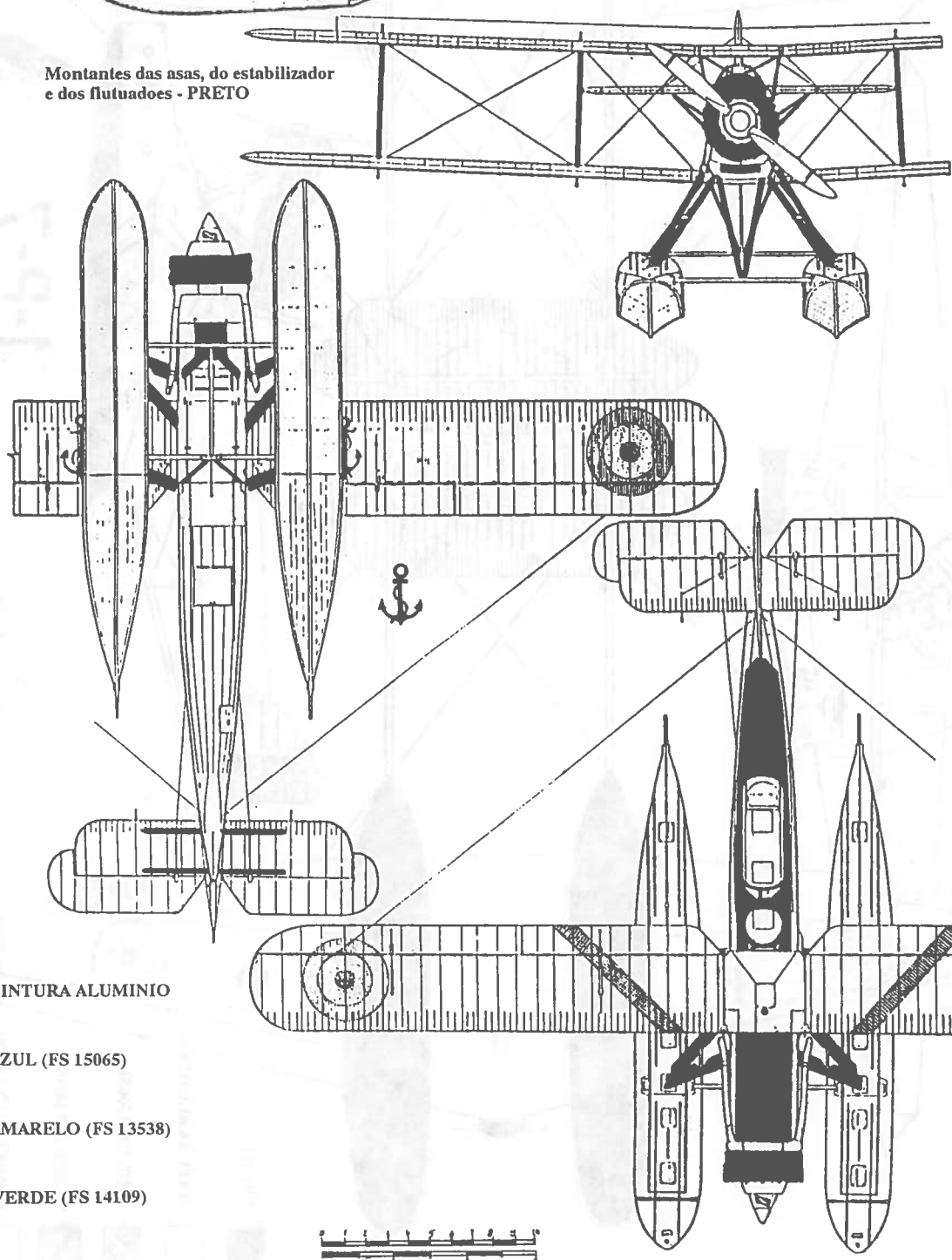


SAVOIA S-55

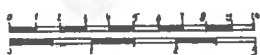




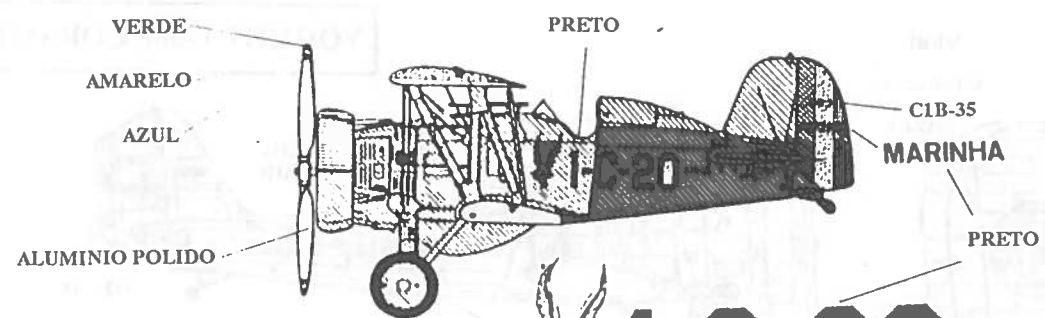
Montantes das asas, do estabilizador e dos flutuadores - PRETO



- ☐ PINTURA ALUMINIO
- ☒ AZUL (FS 15065)
- ☐ AMARELO (FS 13538)
- ☐ VERDE (FS 14109)



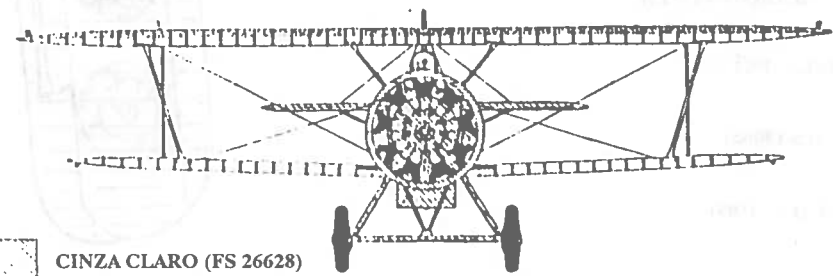
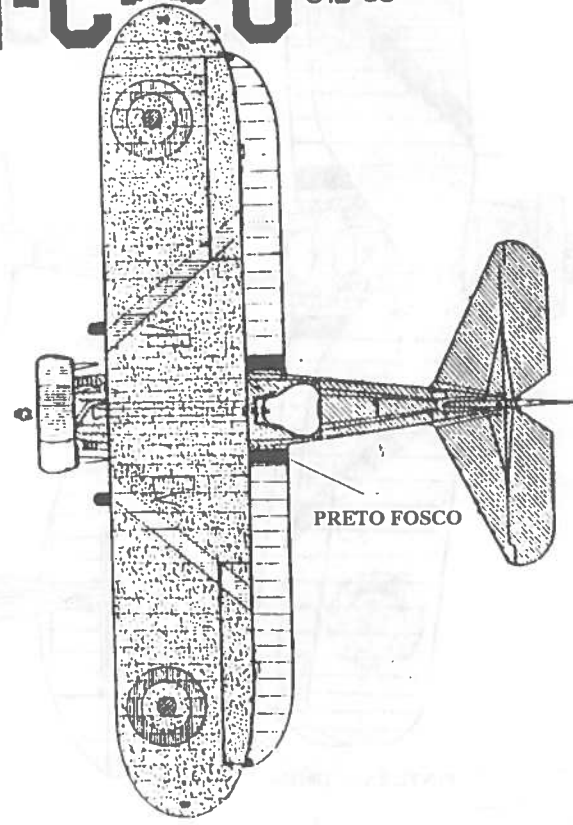
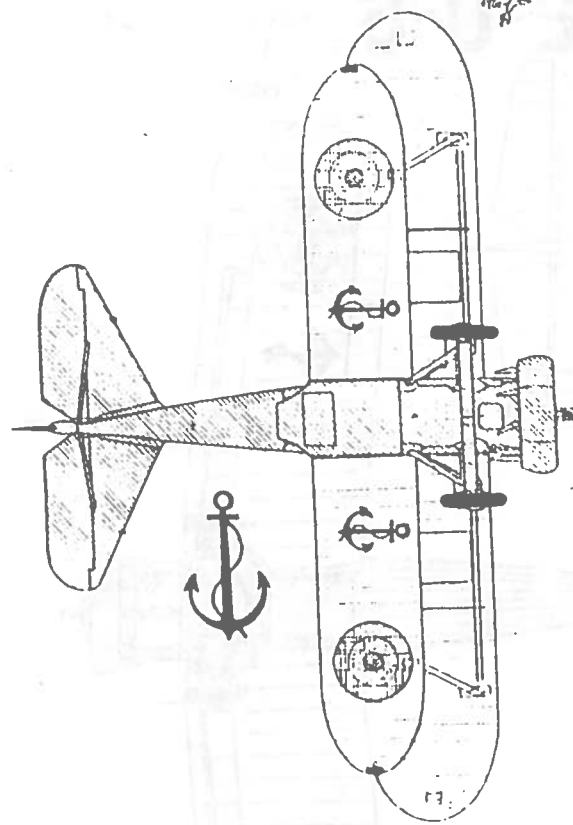
BOEING F4B-4



entorno PRETO com detalhes em CINZA MEDIO



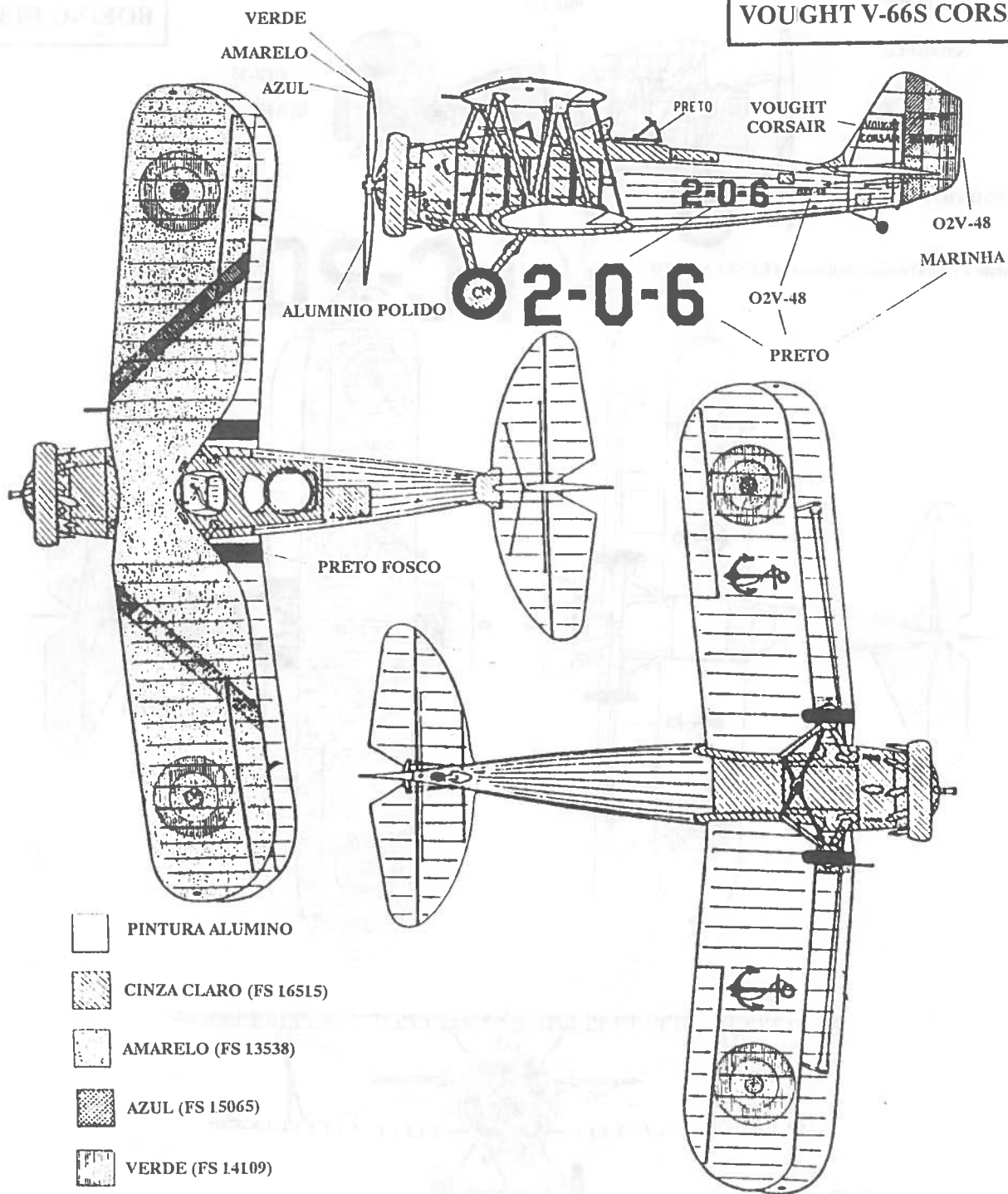
1-C-20 C1B-35








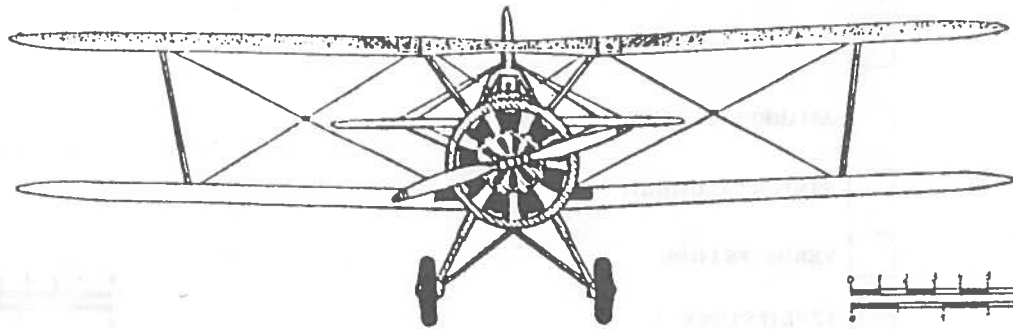
- CINZA CLARO (FS 26628)
- VERMELHO (FS 11105)
- AMARELO (FS 13538)
- PINTURA ALUMINIO
- VERDE (FS 14109)
- AZUL (FS 15965)

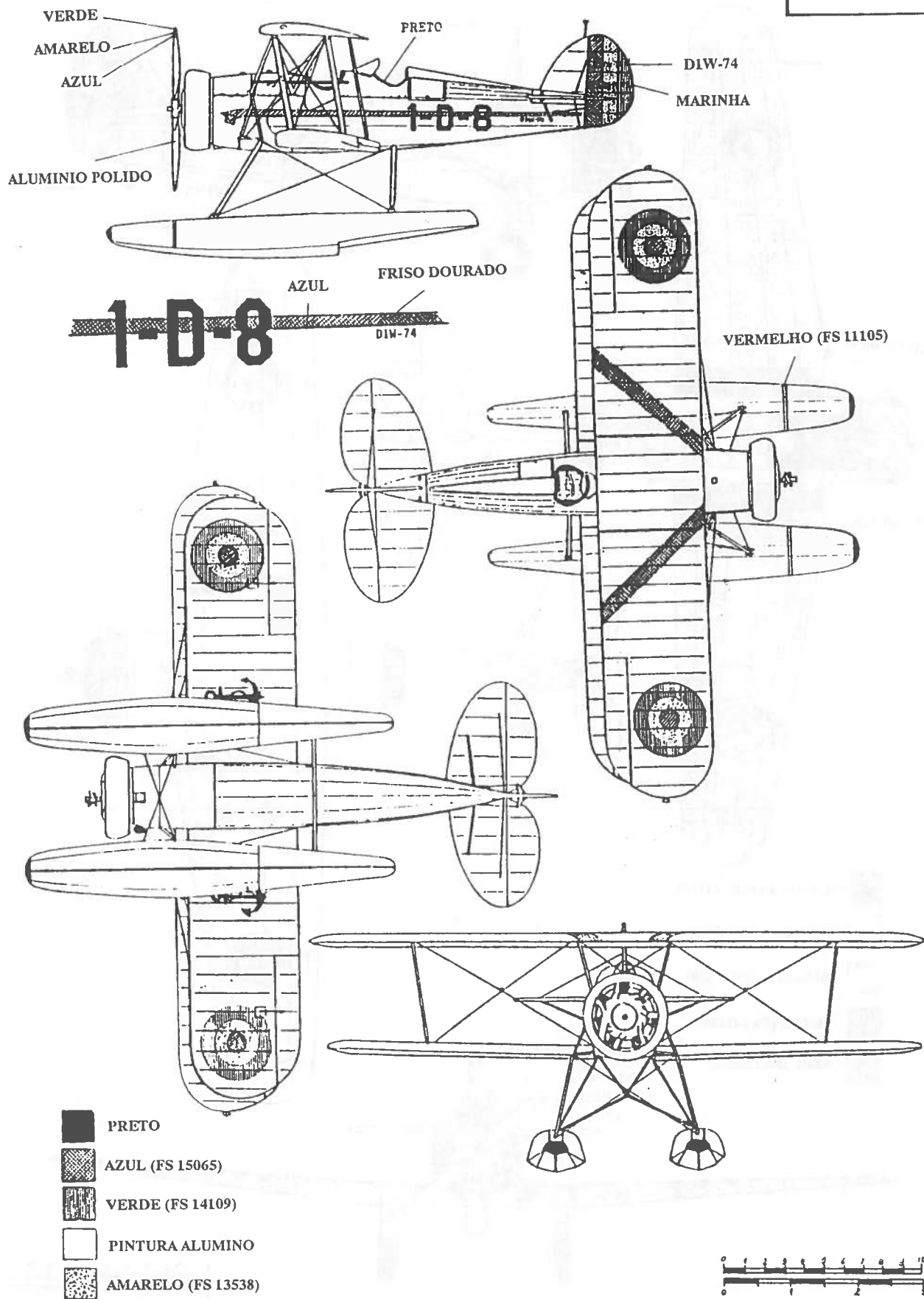


VOUGHT V-66S CORSAIR

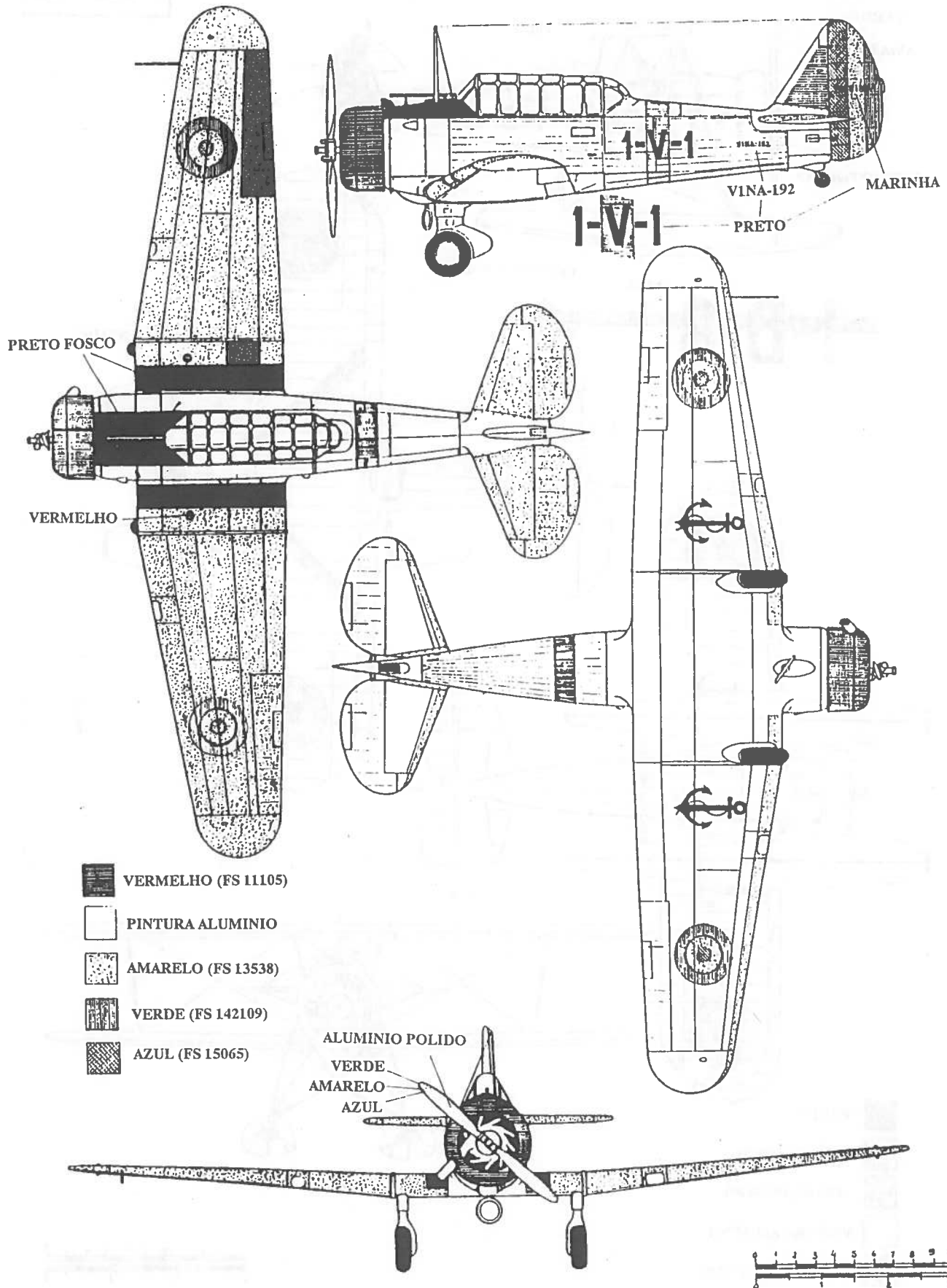


-  PINTURA ALUMINO
-  CINZA CLARO (FS 16515)
-  AMARELO (FS 13538)
-  AZUL (FS 15065)
-  VERDE (FS 14109)





NORTH AMERICAN NA-46



MEXICAN AIR FORCE SERIAL NUMBERS AND PREFIXES: THE ORIGINS

Dan Hagedorn

Most observers of Latin American military aviation have noted that two major nations - Mexico and Brazil - have utilized a serialing system for identifying military aircraft that is unique. While the mystery has now been taken out of most of the Brazilian system due to the efforts of Francisco Pereira and other Brazilian aviation historians, the Mexican system has remained an enigma, and has only been partially understood.

Recently, while conducting unrelated research in the Office of Naval Intelligence records at the National Archives, I came across a document that explains the origins and rationale of the Mexican system.

Mexico benefited handsomely from the Lend-lease program, acquiring large numbers of modern aircraft of many different types. This sudden influx presented the Fuerza Aerea Mexicana (FAM) leadership with a host of problems with which they were hard-pressed to deal.

Up until the advent of Lend-Lease, Mexican military aviation had utilized - for the most part - a straight-forward serialing system for identifying its aircraft. This consisted of a numeric sequence within type, beginning with numeral "1" and continuing. There are some exceptions to this, but this was the system in use at the time of the Lend-Lease bonanza. Following initial Lend-Lease deliveries, the FAM continued this practice through 1942 and most of 1943, although in some cases former U.S. serials were also used to track and account for aircraft.

As the FAM leadership struggled to deal with its growth problems, it became apparent that, for many excellent reasons, the former serialing system would no longer suffice. Accordingly, the service Commander, General Gustavo Salinas Camina, instructed his staff to prepare a system for easy identification of its fleet of aircraft. Readers will quickly note that the system described is, with no changes (but some additions), the same one in use today. The system adopted consisted of what amounted to an FAM "designator" for a specific aircraft type, followed by a four digit number. The numbers were assigned to specific types. This system was institutionalized in FAM regulations between January and March 1944.

PZ The letter "P" stands for the Spanish word "pelea" or "fighter". The second letter has no special significance and is used only for 3-letter group conformity. [Note: This is at variance with the conventional understanding that, in the case of the P-47 Thunderbolt, that the "Z" indicated "zona" for zone defense.] The, the first letter of the manufacturer's company making the given aircraft will be the third initial of the group. [Again, the P-47's deviated from the rules. The Thunderbolts should have been prefixed "PZR", but, instead, carried "PZT"; the "T" indicating "Thunderbolt".] The numbers assigned for use by fighter types were 1001 to 1500 inclusive.

BH A category for horizontal, light bombardment types; the "B" signified "bombardment" and the "H" "horizontal". The third letter, again, would be the initial of the manufacturer. A good, example is the Beech AT-11 series, used by the FAM in this role for many years with prefix "BHB". Numbers assigned for use by this category were 1501 to 2500 inclusive.

BI For use with dive bombers, these two letter signify "bombardment" and "inclinado" (roughly translated as "dive"). Again, the manufacturer letter followed. The only FAM type

ever to carry this designator was the Douglas A-24B ("BID"). Numbers assigned were 2501 to 3500 inclusive.

BM For medium bombers, signifying "bombardment" and "mediano" (for "medium") followed by the manufacturer letter. Numbers were 3501 to 4000 inclusive.

BP A previously unknown category, this indicated "bombardment" and "pesado" for "heavy", followed by the manufacturer's letter. The only potential candidate for this code was the single Consolidated B-24 (or PB4Y) reportedly to have been operated briefly by the FAM post-war. This would have been "BLC" and the number range was 4001 to 4500 inclusive.

OZ Set aside for observation aircraft. The "O" obviously indicated the function while the "Z" was again used to fill-out the three-letter group, followed by the manufacturer's designator. The six FAM Vought-Sikorsky OS2U-3 Kingfishers were eventually included in this little-known category. Numbers assigned were 4501 to 5000 inclusive.

LZ For liaison aircraft, the "L" indicated "liga" or "liaison" and the "Z", again completed the three-character formula. Candidates for use of this series would include Stinson L-5E's ("LZS"?), Interstate L-6's ("LZI"?), and possibly the three Fairchild UC-61's ("LZF"?). Numbers were 5001 to 5500 inclusive.

FZ For photographic or mapping aircraft, the "F" indicated "fotografica" while the "Z" was again a filler. Known use was limited to one of the Beech F-2B's. Numbers were 5001 to 6000 inclusive.

TT For transports, the first letter obviously indicated "transporte" while the second represent "tropa" or "troops". The manufacturer's letter completed the series. An example (not used until post-war) is the Douglas C-47's ("TTD"). Numbers were 6001 to 6500 inclusive.

TC Another transport category. In this case, the "C" signified "carga" for "cargo", followed by the manufacturer's letter. There is no known use of this category. Numbers were 6501 to 7000 inclusive.

TA Another previously unknown category, and another transport block. The "A" signified "ambulancia" or "ambulance", followed by the builder's letter. There is no known use of this series. Numbers were 7001 to 7500.

XZ Another previously unknown block with no known usage, this was a prefix series to be used on FAM experimental aircraft. No numbers were to follow.

It is obvious that the FAM excluded some types from this scheme, notably its most numerous category of aircraft: advanced, basic, and primary trainers. These seem to have been added to the regulation later.

The regulation also specified placement and size of the serials. They were to be 30 cm high and 10 cm wide, placed on the vertical fins of all aircraft.

Finally, a footnote to the report has fascinated this writer and raises a research challenge for our Mexican friends. The next to last paragraph in the regulations reads as follows: "The civilian aircraft mobilized for the emergency will carry the initials and the numbers which correspond to the Group in which they will be employed by the Fuerza Aerea Mexicana!"

SLOVENSTI LETCI (SLOVAK AIRMEN) 1939-1945, Jiri Rajlich & Jiri Sehnal. 68 pages, 21 cm by 29.5 cm. 124 photos, 12 color plates, 15 tables, one map. Softbound.

Over the years, many books reviewed in SAFO have been listed as "recommended", some as "highly recommended", and a very few as "must have". Now, I regret not reserving a even more powerful endorsement. **SLOVAK AIRMEN** is a book that deserves to be in every SAFCH members library because it is the model towards which every author of a book on a small air force should strive.

SLOVAK AIRMEN is misnamed since it describes all aspects of the Slovenske Vzdušne Zbrane (SVZ) from the formation of the Slovak State on 23 March 1939 until 1 August 1945 when the 1st Czechoslovak Mixed Air Division was transferred from Soviet control to become the 4th Air Division of the newly reformed Czechoslovak Republic. During this time "they fought against the Hungarians, Poles, Russians and Americans and finally also against the Germans. However, they also fought in the ranks of the Polish, French, British, Soviet and Czechoslovak air forces. It was form the last-mentioned that they set out and, after the infamous six years of existence of the Slovak State, also returned to it."

The text is in both the Slovak and English language. The latter is not the usual unsatisfyingly brief summary, but a complete translation. The only other place I've seen this in is the 4 + book on the MiG-29., but this is an innovation that all publications attempting to appeal to an English-speaking audience would be wise to adopt. Chapters titles are: Origin of the Slovak Air Force, Conflict with Hungary, The Polish Episode, Alongside Western Allies, Reorganization and New Aircraft, Civil Aviation in Slovakia, The Eastern Campaign, Against the Americans, Collapse of the Slovak Air Force, The Uprising, Alongside the Red Army. I found the chapter on the Polish campaign particularly interesting: "Slovak "ground units did not penetrate very far into Polish inland. In essence they limited themselves only to regaining the poor regions of Orava and Spis, which had been annexed by Poland in 1938 in accordance with the Munich Agreement." Two Avias were lost to ground fire, and the only air victory a RWD-8 shot down on 26 September 1939.

The extensive tables include: Organization of the 3rd Air Regiment on March 1939, Slovak Air Force Losses during the Slovak-Hungarian Conflict, Desertions of Slovak Aircraft, Aircraft Purchased from Germany and Italy, Civil Aircraft in Slovakia 1939-1945, Slovak Air Arms 30 July 1943, Survey of Victories, Losses of 13th Fighter Flight on Eastern Front March-October 1943, Personal Score of Pilots of 13th Fighter Flight, Eastern Front 1942-1943, Losses of 13th Fighter Flight in Combat with Americans, 26 June 1944, Aerial Victories of Insurgent Air Force.

The 45 color side-view drawings are outstandingly well done in vibrant colors on high-quality glossy paper. While the slight majority of these drawings show aircraft carrying the familiar Slovak blue cross with red disk, there are many drawings of aircraft with the Slovak cross insignia (both military and civil), the insurgents insignia, RAF roundels, and the Soviet red star. Two color plates cover uniforms, badges, and insignia.

This books is not without its faults, and since I am setting this up as a model for other publisher to follow, I should mention them. The most serious is that the reproduction of the photos is not as good

as it should be. The cover painting is a rather uninspired view of a Slovak Bf-109; almost any other aircraft would have more appeal than the overexposed Messerschmitt. Finally, my pet peeve: while the translation is excellent, it does contain many awkward moments revealing that the translator's first language is not English. Publisher should be made aware that there are people in English-speaking countries (many of them SAFCH members) who would be willing to polish their translations for no more compensation than a free copy of the publication. [Editor's note: If any publisher asks, the SAFCH would be willing to collect the names of members who would be willing to perform this task.] Even with all it outstanding qualities, **SLOVAK AIRMEN** is not the final word on the Slovak Air Force. Future books will go into more details on the combat history (many chapters deserve a book of their own), describe the aircraft more completely, have more color drawings, etc., but none will cover so much material in such a balanced format - truly a model of all publisher. The next book for this publisher will be "Československé Letectvo 1918-1938" in four parts. **SLOVENSTI LETCI** is available from the SAFCH Sales Service. There are 20 on hand, but this book deserves to sell at least five times that to SAFCH members, so I am prepared to order more.

"Przegląd Konstrukcji Lotniczych (PKL) has just issued #6 in their series, the eagerly awaited booklet on the MiG-29 **FULCRUM**. A lot has already be published on this aircraft in many countries, thanks to the Gorbachov's glasnost, so do not expect much previously unknown information. However, this book is a must for modelers since it has the most accurate 1/72-scale drawings and cross sections for the MiG-29 available. MiG-29 drawings containing many inaccuracy and much misinformation have appeared both in such renowned publications as Aerofax and in kits. There is no really accurate 1/72-scale kit of the Fulcrum despite the fact that no less than 10 kits have been released. This booklet will help the modeler cross kit the Italeri and Airfix kits to produce the ultimate model of the MiG-29.

"The format of this booklet is the same as previous PKL monographs. There are full-color drawings for five machines (Polish, Soviet, Indian, Czech, and, not surprisingly, Iraq); there are plenty of photos including details of cockpit, weapons, ejection seat, undercarriage, wings, tailplane, etc.; drawings of a camouflaged Polish machine (red '70') with FS color equivalents; sketches; and much more. Scheduled for release in June is the monograph on the Su-27."

Wojciech Butrycz (SAFCH #981), ul. Facimiech 12A m.25, 30 667 Krakow, Poland.

A LIST OF SWEDISH MILITARY AIRCRAFT, Ted Burnett. 41 pages, 21 cm by 30 cm. Published by IPMS(UK) Swedish Airforce Special Interest Group, 19 Tintagel Close, Parkside Grange, Cramlington, Northumberland, NE23 9NZ, England..

This labor of love consists of the following tables: Fighter Aircraft Flown by Flygvapnet (31 entries); Bomber, Torpedo, and Attack Aircraft used by Flygvapnet (21 entries); Training Aircraft Flown by Flygvapnet (34 entries); Reconnaissance Aircraft Flown by Flygvapnet (37 entries); Transport Aircraft Flown by Flygvapnet (37 entries); Helicopters Flown by Flygvapnet (14 entries); Test, Proving & Research Aircraft Flown by Flygvapnet (15 entries); Marinen Aircraft (35 entries); Armen

Aircraft (50 entries); Recent Armen Aircraft (6 entries); Other Military Aircraft Flown by Sweden (9 entries); Glider (5 entries); Other Military Aircraft Used (2 entries). Each table contains the following information: Type, Typical Serial Numbers, Period in Use, Number Used, and Kits Available. The remainder of the publication consists of a 9-page reference list organized by aircraft type; a list of books, magazines, and other publications covering Swedish military aviation; useful names and addresses; and copies of advertisements of plans and decals.

The Swedish Airforce SIG should be complimented on producing a very nice publication. For further information on this (and other publication) write to them at the address above.

[Editor's note: For some comments about the possibility starting SIGs on some of the small air forces, see the editorial in the issue of SAFO.]

THE WARS OF JAPAN, by Ron Tarnstrom. 280 pages, 11 in. by 8.5 in., illustrated with photos, drawings, and maps. Hardbound. Trogen Books, Rt. 1 Box 4, Lindsborg, KS 67456. \$25.95 (foreign customers add \$1.00 per book for postage).

SAFCH member Ron Tarnstrom has just brought out another volume in his monumental series, **50 CENTURIES OF WARFARE. THE WARS OF JAPAN**, his most ambitious project so far, follows the format that has proven to be so successful: "The 280-page narrative is loaded with details about minor operations and weapons, as well as those more widely known. A color plate illustrates uniforms and emblems used through the years. The catalog of weapons included 151 warplanes, 189 warship, 34 AFVs and 28 infantry and artillery weapons. Structure is described by 164 orders of battle and tables of organization." As usual, all the planes, ships, and weapons are illustrated with small, constant-scale, side-view drawings.

Topics covered are: Mongol Invasion 1281, Korean War 1592, Sino-Japanese War 1894, Russo-Japanese War 1904-05, World War I 1914-18, Sino-Japanese War 1937-45, Manchuko, Pearl Harbor, Philippines, Malaya, Burma, Netherlands East Indies, Coral Sea, Midway, Solomon Islands, New Guinea, Philippines, Marianas, Bombing of Japan, Invasion, Self-Defense Force.

I found the early history of Japan, up to the beginning of WWII, very interesting because I had known little of these events and it help put the origins of WWII in the Pacific into perspective for me. Although the events in the Pacific in WWII are well known to me, I found these sections interesting because of the information gathered by the author from Japanese sources.

This book, as are all the books in the series, is recommended to all students of the history of warfare. Even after you finish reading it, you'll find it a good reference to find the exact date of a battle, the names of the participants, the composition of the opposing forces, etc.

Although **THE WARS OF JAPAN** is very inexpensive, Ron has graciously offered to give SAFCH members a 10% discount. Member in the US should send \$23.40 by check or money order (no credit cards) to Trogen Books at the address listed above. Foreign members should send \$24.40 in American funds. And, be sure to include your SAFCH number. [Editor's note: It's on the upper right side of your address label.] Shipment is by USPS book rate in the US and by surface mail overseas, unless arrangements are made to pay the much higher fees for other methods of shipment.

Ron is already working on his next project. He writes, "We have started our next project, **THE SWORD OF SCANDINAVIA**, which will include all-time information about the armed forces of Denmark, Norway, Iceland, Sweden, Finland and the Åland Islands."

LOCKHEED F-22, Dick Abrams and Jay Miller, 40 pages, 8.5 in. by 11 in., 4 pages of color, 100 black & white and 8 color photos. \$10.95.

"This latest title in the Aerofax Extra series describes the history and technical details of the Lockheed F-22. Authored by by Dick Abrams, director of the world-renown Lockheed Skunk Works flight test department, and noted aviation historian Jay Miller, this book is an account of F-22 design development and flight test milestones. The photographs provide an intimate glimpse of the hardware and its myriad details. Included are the first published images of the F-22A's "all glass" cockpit. Engineering and Manufacturing Development aircraft studies which are expected to lead to the production configuration are addressed. The first published image of the navalized F-22 is included. All in all, this is a very complete book about what is potentially the most important U.S. fighter program of the 21st century.

"Available through hobby shops and bookstores everywhere, or order from Aerofax, Inc. direct (Telephone 1-800-733-2329 or PO Box 200006, Arlington, TX 76006."

F-15E STRIKE EAGLE, Hans Halberstadt. 96 pages 7.5 in. by 10 in., 100 color photos. Softcover \$17.95.

"This stunning book launches a new series of full-color aviation titles from Specialty Press. The renowned aviation photo-journalist Hans Halberstadt has assembled a fascinating visual essay on the USAF's newest and most versatile ground attack fighter. The author gained unprecedented access to the F-15Es in taking his specially-commissioned photographs. He shows the Strike Eagle on the ground and in the air, from every angle, and includes close-ups of cockpit interiors. Detailed captions explain the 'Star Wars' controls, weapons, and capabilities of the Strike Eagle. The author also interviewed crews of opera-

tional squadrons and photographed them on duty and off.

"This book sets the standard for color, data, and detail that the Wings series will follow. It's not only the aircraft modeler's dream - but the answer for anyone who wants the complete, authoritative story of this exciting aircraft.

US NAVY: WEST COAST WARRIORS, George Hall. 86 pages 7.5 in. by 10 in., 100 color photos. Softcover. \$17.95.

"The heart of the Navy's air combat evaluation program on the West Coast lies at Point Mugu, 40 miles north of Los Angeles. In this new book, respected aviation photographer George Hall and his colleagues take you into a fascinating world. Here Navy test pilots, including VX-4 'Evaluators' and VX-5 'Vampires', wring the bugs out of each new generation of fleet warplanes, marrying them to new weapons systems under the perfect conditions of a fully-instrumented 35,000 square-mile range facility. The Tomcats and Hornets stalk 'smart drones'. Wired-up Sabres and Phantoms are flown by shirtless pilots on the deck through the responses of 'Ensign Nolo' in the cockpit - and Nolo doesn't always lose!

"Hall has also captured a gallery of other Navy types in and around Mugu, which is home to more than 20 reserve units operating an increasingly sophisticated inventory. Here are Hornets of VFA-305 'Lobos', alongside the extraordinary ski-equipped LC-130R Herks of the Antarctic support squadron; Orion patrol ships of VP-65 'Tridents', and the Navy's latest combat support HH-60 choppers of HCS-5 'Firehawks' fresh from the Gulf; and a wide range of other residents and 'drop-ins', from ANG CV-130s to Corsair taxis and Gulf-proven A-6 'mud-movers'. Hall's book takes you from the computer centers, out onto the ramp, and up into the busy skies with color, data, and detail."

[Editor's note: These latter two books are available from booksellers, hobby shops, or direct from the publisher: Specialty Press, 123 North Second Street, Stillwater, MN 55082. Call toll-free 800-888-9653. For direct mail orders, please add \$3.95 each for shipping and handling.]

US NAVY EJECTION SEATS, Volume 1. "This is the first in a series of books on the ejection seats used in US Navy and Air Force aircraft. Printed on high-quality art paper, volume one consists of 44 pages of information which will allow the modeler to produce accurate reproductions of the ejection seats used in the F6U, F2H, and F9F-2/4.

"Each ejection seat has been thoroughly researched, using manufacturer's drawings and photographs which have been translated into information that the modeler can use. Detail technical cutaway drawings were done exclusively for this book, not reprints from maintenance manuals. Each cutaway drawing is numbered so that it can be quickly related to the corresponding templates which are provided for 1/72, 1/48, and 1/32 scale aircraft. The photographs fill the page! Put away your magnifying glass; we've scaled these photos so you can see every detail.

Send \$15.00 (US funds only) (foreign order add 25% for postage) to: Aviation Research, 1268 Cherrydale Cove, Memphis, TN 38111."

FIGHTING COLORS: UH-1 HUEY IN COLOR, Wayne Mutza. 36 pages 8.5 in. by 11 in., 50 b&w photos, 88 color photos. Softbound. Squadron/Sigal Publications \$8.95.

This is mainly a photo book with a minimum of text (about two pages describing the colors and markings of US Army, Air Force, Navy, and Marine Hueys with emphasis on Vietnam service). The reproduction of the photos, especially the color photos, are to the high quality expected from this publisher. While there are a lot of fascinating color schemes for US Hueys, it is the coverage of the small-air-force Hueys that recommends this publication to SAFO readers. Counties covered in the color photos include South Vietnam, Italy, Japan, The Netherlands, Mexico, Spain, Sweden, New Zealand, Iraq (What is a Bell 214, anyway?) Australia, US, Canada, West Germany, Honduras, Colombia, and Costa Rica. [Editor's note: Decals for the UH-1B are available from the SAFCH Sales Service in the Latvia range. This includes marking for an Army and a Marine UH-1B in Vietnam and a Bell 204B in the markings of the CIA's Air America.]

FIRST KILL

A full-color print from an original oil painting by Roy Grinnell shows Wladek Gnys' PZL P-11c, in the winged-arrow markings of 121 Fighter Squadron PAF, attacking two Dornier Do-17E on the morning of 1 September 1939. Both aircraft crashed - the first confirmed victories over the Luftwaffe in World War II.

Size: Image 16.5 in. by 25 in. Overall 22 in. by 29 in. 1000 signed and numbered. \$150 (shipping included). Check or MO to William Wolf, 7821 NW 5 Place, Ft. Lauderdale, FL 33324.



INTERNATIONAL AIRCRAFT PATCHES

Ted Koppel

As a change of pace from our series on the unit emblems of various small air forces, a look at depictions of actual aircraft on similar patches, also worn on flight clothing, might appeal a bit more to the technophiles among us.

While in some smaller air arms there may be only one unit flying a particular type of aircraft, such patches, with very few exceptions, would not be considered unit emblems. (Although there do exist unit emblems showing aircraft, they most likely would need to be changed whenever the unit switches aircraft. For example, what will become of the FAV Grupo Aereo de Caza No. 11 badge, illustrated in SAFO #58 (April 1991), when the Mirages are retired?) The typical aircraft patches are worn in conjunction with a more "traditional" unit patch, usually on the opposite sleeve or breast/pocket.

One type of patch depicts a plan-view of the specific aircraft, often in silhouette, and will be termed Category A. They may or may not show the aircraft designation or national/AF identification. Category B will be used for patches which depict an aircraft in a variety of other views, including 3/4, as seems to be a more recent trend. That leaves Category C for the miscellaneous ones which do not show an aircraft at all, but identify it by number or name, with or without other illustration. (Example of this last category would be the Republic of Singapore AF patches for the F-5E/F and F-15 shown in SAFO #55 (July 1990).

Our Category A selection, shown at 45% of actual size, begins with part of an F-5 series on the top half of the page. Prominent among these is the elongated-pentagon style, used in various corners of the world, which identifies the country and illustrates the national aircraft insignie. (A slight variation, unfortunately not part of our Small Air Forces Collection, for the Turkish AF has national flag, instead of the roundel, in the lower left segment and the name "TURKIYE", on the right.)

The more common form is shown, among others, for the Royal Norwegian AF, wherein, on a white background with blue borders, the aircraft and name of the country appear in black, "F-5" in white, and the roundel in the national colors of blue-white-red. (A photo of this patch "in action", worn on the right sleeve below the national flag, can be seen in "NATO FORCES: An Illustrated Reference to their Organization and Insignia", by Brain L. Davis (Blandford, 1988). This style is continued with the three examples from the former Republic of Viet-Nam AF, except that the borders are black and the insignie is, of course, blue, white, yellow, and red. Actually, the two hand-embroidered interpretations (one on olive-drab material for low visibility) show the national aircraft insignie with non-regulation wing-shaped bars, using an orange color in place of bright red.

The second row begins with a variation, blue on white with red border, for the Royal Thai A.F. The standard format is represented again, as with Norway, by the one for Taiwan's Republic of China AF, with the older proportions for the national insignie. The small triangle version is in the same colors,

omitting the Taiwan identity; and the triangle below it, with a background of light blue, white, and red, has the aircraft, border, and "CAF F-5A" all in black. Possibly this could have been worn with the triangle point down, putting the lettering at the top and the jet at an angle, opposite of the direction shown in the red and white shield next to it.

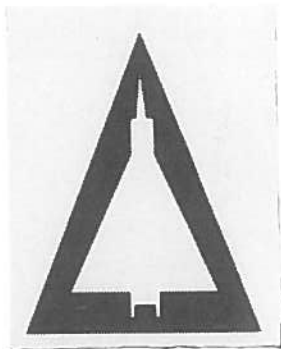
The bottom half of the photo contains a selection of miscellaneous aircraft types, continuing with four more patches for Twain (in blue and white). Perhaps the first one could be considered a type of unit emblem, if the "C.A.F.A." stands for Chinese Air Force Academy. The second one is a Category B patch, perhaps even worn on its side, or at an angle? The third F-104 design is on a paler blue background, while the fourth patch seems to represent the indigenous AT-TC-3. The Republic of Viet-Nam AF encores with a heavily-armed A-37 (black with golden-yellow details) on a yellow-orange background with a bright blue border. This is a hybrid category, for the color and "O DEN" motto tie it to the VNAF 548th FS. (There are at least four other A-37 aircraft patches, with mottos and color-combinations relating to specific units and worn in conjunction with the latter squadron emblems.) Also belonging to the former VNAF is the AC-119K patch, with guns protruding from the left side of the aircraft, fore and aft. The design is black and white, with the gunship superimposed on the RVN national flag colors of three red stripes on golden yellow.

The bottom row begins with an F-102 Delta Dagger design in black and white (printed on plastic-coated canvas) for the Turkish A.F. This patch has "110 FS" penciled on the back; and although Turkey has utilized aircraft such as the F-104 as part of their squadron emblems, they are quite a bit more elaborate, giving unit designation, etc. Next is an Israel DFAF Kfir C2, shown in a four-tone camouflage scheme of tan, silver-gray, olive-green, and brown, with the "Shield of David" insignie on both wings in the national colors of light-blue and white. The aircraft, on a light-blue background, is detailed in black. Perhaps the Israeli Aircraft Industries initial in the upper center indicate that this is a manufacturer's patch? Finally, the Republic of Singapore AF shows up again with a Hunter and an F-15. The former patch is in tan on a red-maroon background; the aircraft outline, detail, and "shadow" are all in black, as

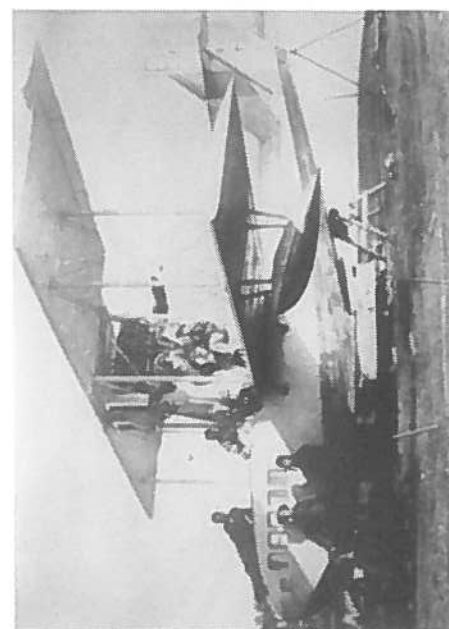
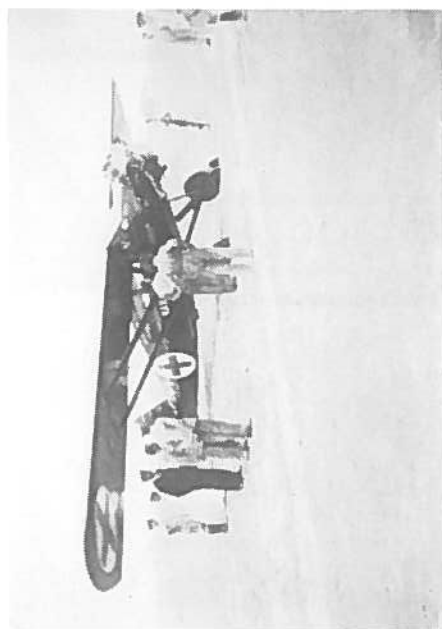
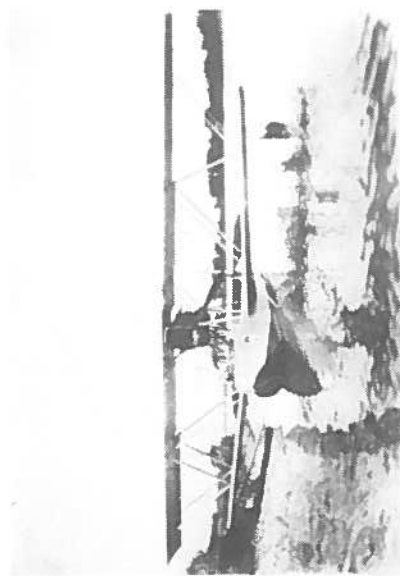
is the background to the tan lettering. The white F-15 disc, a combination Category A/C patch, has a yellow aircraft with red missiles, on which is superimposed the white, black, and reddish-brown eagle's head. All elements are outlined in black, with the exception of the white lettering.

Since these samples were recorded, more aircraft patches, mostly Category B, have joined the Small Air Force Collection. (Keep watching the skies.)

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